EFFECTIVENESS OF COLD PACK APPLICATION ON ACUTE EPISODIC PAIN AMONG PATIENTS WITH MIGRAINE IN OPD AT GRH MADURAI.

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In partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN NURSINIG

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This is to certify that this dissertation titled, **"EFFECTIVENESS, OF COLD PACK APPLICATION ON ACUTE EPISODIC PAIN AMONG PATIENTS WITH MIGRAINE IN OPD AT GRH, MADURAI"** is a bonafide work done by **Mrs. K.NAGAJOTHI** M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai-20, submitted to **THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI-32** in partial fulfillment of the university rules and regulations towards the award of the degree of **MASTER OF SCIENCE IN NURSING**, **Branch-I, Medical Surgical Nursing** under our guidance and supervision during the academic period from 2015 – 2017.

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‘’The wise man lets go of all results whether good or bad and is focused on the action alone”.

Bhagavad Gita.

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ABSTRACT

Title: Effectiveness of cold pack Application on acute episodic pain among patients with Migraine in OPD at Government Rajaji Hospital, Madurai. **Objectives:** To assess the level of Acute Episodic pain among patients with Migraine .To evaluate the effectiveness of cold pack intervention on Acute Episodic Pain among patients with Migraine intervention group. To associate the level of acute episodic pain among patients with migraine with their selected socio demographic variables and clinical variables in OPD at Government Rajaji Hospital, Madurai. **Hypotheses:** There is a significant difference between the level of acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital, at Madurai .There is a significant association between the level of acute episodic pain among patients with migraine with their selected demographic variables. **Conceptual Framework:** Modified Imogene kings goal attainment theory **Methodology:** Quantitative approach – True experimental - pre test post test only design. Sample size was 60, selected by Simple random sampling technique. International Headache society Criteria was used to assess symptoms of pre test ,pain assessment by using numerical rating scale . Cold pack application applied two times with an half an hour interval daily in the morning .post test was done by using the same tool. **Findings:** The findings revealed that there was a significant reduction in the level of acute episodic pain after cold pack intervention, which was confirmed by paired 't' test. The 't' value is 22.47 p value at 0.001 level of significance. Pain score report showed significant reduction **Conclusion:** This study statistically proved that Cold pack application was very effective in reducing Pain among patients with migraine.

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INTRODUCTION

CHAPTER I

INTRODUCTION

"No one knows our body or our subjective experiences like we do"

Sarah Hackley.

Health is a state of wellbeing of an individual, and is not only physical health but also including a mental health. There is nothing in our life that is more valuable than a good health, without health there is no happiness, no peace, and no success. In day to day life we are facing so many problems that lead to stressful situations. These stress induces physical problems, mental discomfort. In hospital settings out patient department different type of clients will take treatment for their complaints like pain, headache, with nausea, and vomiting, body ache, stomach pain and diarrhoea etc. For any type of discomfort the individual seek and undergo prescribed treatment as per doctors order in Hospital settings at outpatient department.

Headache is one of the most common physical complaints of all human being. Headache is the commonest symptom for which people seek medical advice from doctors. The most common type of headache is migraine. Migraine is typically described as a sick headache, since the patient apart from headache feels very sick. The name "migraine" goes thousands of years back to the time of Hippocrates, who called the aliment "hemicranias", a Greek term meaning "half skull", since the headache affects usually one half of the head.

Migraine is a primary headache disorder characterized by recurrent headache that are moderate to severe. Typically the headache affect one half of the head, and pulsating in nature, and last from 2 to 72 hours with the associate symptoms may include nausea, vomiting, and sensitivity to light, sound, or smell. The pain is generally made worse by physical activity. Up to 1/3 of people have an aura: typically

a short period 5-60 minutes of visual disturbance which signals that the headache will occur soon. Occasionally, an aura can occur with little or no headache following it on.

. Migraine can manifest in different ways and the most characteristic feature of migraine headache is Unilateral pain. Ancient Greek and Egyptian writings show that physicians of that time were concerned about this disease and they treat it with bloodletting and craniotomy in some patients with headache. There are about 100 million peoplewith headache in U.S about 37 million of these people have migraines the world health organization suggest that 18% of women and 7% present of men in the U.S suffer from migraines in the year 2015.

Migraine is a genetic neurological disease, characterized by episodes often called Migraine attacks. They are quite different from regular headache .Migraines are believed to be due to a mixture of environmental and genetic factors. About 2/3 of cases run in families, Changing hormone levels may also play a role, as migraines affect slightly more boys than girls before puberty and 2 to 3 times more women than men. Twins indicate a 34% to 51% genetic influence of likelihood to develop migraine headache. This genetic relationship is stronger for migraines with aura than for migraines without aura. A number of specific variants of genes increase the risk by a mild to moderate. Single gene disorders that result in migraines are rare. One of these is known as familial hemiplegic migraine, a type of migraine with aura, which is inherited in an autosomal dominant fashion. Four genes have been shown to be involved in familial hemiplegic migraine. Three of these genes are involved in ion transport. The fourth is an axonal protein associated with the exocytosis complex.

Migraine sufferers may have moderate or severe pain and usually can’t participate in normal activities because of the pain. Some persons have pain on just the right side or left side of the head, others result in pain all over. Often when a migraine

strikes, people try to find a quiet, dark room. Different people have different triggers and different symptoms. Some people experience aura, which can cause changes in vision. Sufferers have reported can't seeing flashes or bright spots. Although an exact cause is unknown, brain scan shows that migraines may be due to "hyperactivity" in parts of the brain. Actually, a migraineur brain is biochemically different than that the brain of a person without this disorder.

Migraine headache is generally treated by anti-migraine agents, analgesics and anti-emetic agents. Various non-pharmacological methods including massage, trigger point therapy, reflexology, spinal manipulation therapy, therapeutic heat or cold application, acupuncture, bio feed back, yoga and exercise therapy have also been investigated in the past for migraine patients. Pain is the most common symptom for physician consultation in most developed countries. It is a major symptom in many medical conditions, and can interfere with a person's quality of life and general functioning. Simple pain medications are useful in 20% to 70% of cases. Psychological factors such as social support, hypnotic suggestion, excitement, or distraction can significantly affect pain's intensity or unpleasantness. Migraine sufferer alarmingly describe the migraine bouts like hit over the head with a hammer, inside of the head repeatedly jabbed with a sharp object or having their head stabled with Needles.

Migraine triggering factors such as Stress, lack of sleep, food additives, hunger or dehydration ,highly caffeinated drinks, medication over use, alcohol, odour or strong smells, bright light, loud sound, over use of pain medication such as nonsteroidal anti inflammatory drugs, changes in weather, hormones, excessive physical activity certain foods trigger migraine, foods such as citrus fruits, cheese chocolates, fasting may trigger the migraine.

In a basilar migraine, a migraine with neurological symptoms related to the brain stem or with neurological symptoms on both sides of the body, common effects include a sense of the world spinning, light-headedness, and confusion. Nausea occurs in almost 90% of people, and vomiting occurs in about one-third. Other symptoms may include blurred vision, nasal stuffiness, diarrhoea, frequent urination, pallor, or sweating, neck stiffness, Swelling or tenderness of the scalp may occur.

Migraine medications are considered effective if they reduce the frequency, severity of the migraine attack. Medications such as topiramate, divalproex, sodium valproate, propranolol, metoprolol, gabapentin, pregbalin, timolol, amitriptyllin and venlafaxine are effective in migraine frequency. while frovatriptan is effective for prevention of menstrual migraine. Botulinum toxin (Botox) to be useful in those with chronic migraine.

1.1 Need for the study

Migraine is a throbbing headache characterized by moderate to severe pain. Migraine is an important public health problem, particularly among women during their reproductive age group. Migraine control is important, through careful history and diagnosis of the patient. This should broadly be the control of symptoms to minimize the impact of the illness on the patient's life and lifestyle. If there is a management plan includes abortive, and alternative management considered. General measures include advice on sleep, relaxation and stress management; yoga, meditation, cold therapy, and physical fitness may help to reduce the susceptibility to migraine.

The prevalence of migraine headaches is high, affecting roughly 1 out of every 7 Americans annually, and has remained relatively stable over the last year. Prevalence of migraine 18% of women, and 7% of men get migraines sometime in their lifetime.

About half of these people get their first migraine before the age of 20, and 98% before the age of 50. 5% get migraine before they're 15 years old, and about a third of those get migraine before they're even 5 Most migraines, however, occur between the ages of 25 and 50. Before puberty, girls and boys are almost equal in the migraine they suffer, possibly due to the estrogen changes that women go through at various stages in life. About 70% have close (first degree) relative with migraine .Many people suffer from migraine it is strongly linked with stress. In Government Rajaji Hospital, Madurai, Out Patient Department of Neuro Medicine, 8 to 10 patients of Migraine attending clinic everyday for the treatment.

Globally, it has been estimated that prevalence among adults of current headache disorder is about 50%. Half to three quarters of adults aged 18–65 years in the world have headache in the last year and, among those individuals, 30% or more have reported migraine. Headache on 15 or more days every month affects 1.7–4% of the world's adult population. Despite regional variations, headache disorders are a worldwide problem, affecting people of all ages, races, income levels and geographical areas.

There are about 100 million people with headache in United states about 37 million of these people have migraine the world health organization suggest that 18% of women and 7% present of men in the United states suffer from migraines in the year 2015.

Prevalence of head ache in India was 63.9%,with female preponderance 0f 4:3, migraine was25.2%, higher among females than males 2:1,among those rural area to urban1.5,tention type head ache 35.1%, all head ache≥15 days/ month3.0% ,medication over use Head ache was 1.2%.

There are four types of therapeutic management for migraine patients as follows General measures, abortive therapy, pain relief measures and prophylactic therapy. Various non-pharmacological methods including massage, reflexology, spinal manipulation therapy, therapeutic heat or cold application, acupuncture, Biofeed back, Transcutaneous electric nerve stimulation and exercise therapy have also been investigated in the past for migraine patients. There are some reports which support the efficacy of cold application in the treatment of migraine Head ache.

A study conducted on 9 million American men who suffer from migraines probably avoid headache trigger like alcohol, a different kind of cocktail symptoms. Recent researcher presented at the American Academy of neurology reveals that a new treatment can nearly eliminate the migraine frequency. In the study of 2,900 migraine sufferers, those who took 85milligram (mg) of the prescription drug Imitrex and 500mg of Naproxen at the onset of an attack experienced a 72% reduction in pain over 4 hours, relief from nausea and reduced sensitivity of light and sound. “Naproxen cuts down on inflammation while Imitrex stop brain cell activity that can exacerbate migraine pain” says Stephen Silberstein MD.

A study, the efficacy of extra-cranial pressure in combination with cold to treat headache was supported. They showed that simultaneous pressure of heat and cold reduced the headache duration. Today, some patients report that they treat their headache using physical therapies, including cold application. In 90% of all affected people, migraines appear at an early age, particularly in the age of 30. Women are affected almost twice as much as men. In people over the age of 60, migraine seems to be an exception. Family forms have been reported, but there is no evidence that the condition is passed on from one generation to another. Of course, not every headache is a migraine headache, and it was not until 1988, that the specialists of the

International headache society were able to agree on a general classification of the affliction.

Researcher, during the clinical posting observed that the acute episodic pain patients with migraine had unbearable type of head ache. In Government Rajaji Hospital Madurai every day patients will come for the complaints of migraine and got treatment. Researcher reviewing the literature, need to intervention of cold pack application to reduce the pain intensity. Prophylactic therapies which gives maximum benefit at minimum cost. Researcher found that cold pack application review is few, so review collected from articles, and journals Researcher intended to evaluate the effectiveness of cold pack intervention on acute episodic pain among patients with Migraine. All these made the researcher to do the study.

1.2 Statement of the Problem

A study to evaluate the effectiveness of Cold pack application on Acute episodic pain among patients with migraine in OPD at Governtment Rajaji Hospital Madurai 20.

1.3 Objectives

1. To assess the level of acute episodic pain among patients with migraine both intervention group, and control group in OPD at Government Rajaji Hospital, Madurai.
2. To evaluate the effectiveness of cold pack application on acute episodic pain among Intervention Group patients with migraine in OPD at Government Rajaji Hospital Madurai.
3. To associate the level of acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital, Madurai with their selected socio demographic variables.

1.4 Hypotheses

- H_1 There is a significant difference between pretest and post test level of acute episodic pain among Intervention group patients with migraine, in OPD at Government Rajaji Hospital, at Madurai.
- H_2 There is a significant difference between the post test level of acute episodic pain among intervention group, and control group patients with migraine in OPD at Government Rajaji Hospital, at Madurai.
- H_3 There is a significant association between the level of acute episodic pain among patients with migraine with their selected demographic variables.

1.5 Operational definitions

Effectiveness:

In this study it refers to the intended outcome of applying cold pack on acute episodic pain among patients with migraine and it is measured by pain numerical rating scale in terms of significant Values in the post test.

Cold Pack Application

In this study Cold pack application refers to administration of cold pack bag contains water with ammonium Nitrate, calcium ammonium nitrate, or urea. In these chemicals dissolved in water produce endothermic reaction. Application of gel pack covered by small towel with 8^0c over fore head for 20mts two times a day with half an hour interval to reduce the acute episodic pain.

Acute Episodic Pain

In this study acute episodic pain refers to an unpleasant sensation experienced by who are diagnosed as migraine, and it is measured by pain numerical rating scale.

Patients with Migraine

In this study refers to patients who are diagnosed as migraine and attending the outpatient department Government of Rajaji Hospital, Madurai.

Out Patient Department

In this study outpatient department refers to Neuro Medicine outpatient department in which migraineur, exclusively treated for their level of acute pain.

1.6 Assumptions

Patients with migraine may have experience varying level of pain.

1.7 Delimitation

The study was limited to patients with migraine attending outpatient department at Government Rajaji Hospital Madurai.

The sample size is limited to 60 subjects

The study period is limited to 4to 6 weeks.

1.8 Projected Outcome

Cold pack application will reduce the level of acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital Madurai.

REVIEW OF LITERATURE

CHAPTER-II

REVIEW OF LITERATURE

Review of literature is a key step in the research process. It refers to an extensive, exhaustive and systematic examination of publications relevant to the research project. The important purpose of literature review is to convey to the readers about the work already done, knowledge and ideas that have been already established on a particular topic of research.

This chapter is divided into two parts:

Part I- Review of literature

Part II - Conceptual framework

The review of literature has been done for the present study "To evaluate the effectiveness of, of cold pack application on migraine from published articles, journals, textbooks, reports, projects, dissertations, Medline, and internet search. Finally the review of literature was organized and presented as follows:

1. Review Literature Related to Migraine Head Ache

2. Review Literature Related to Cold Pack Application.

3. Review Literature Related to Effectiveness of Cold Pack Application on Migraine

4. Review Literature Related to Other Treatment on Migraine

2.1. Review Literature Related to Migraine Head Ache

T N Vijayalakshmi1, Ratna Manjushree et al (2016) Conducted a Clinical study to evaluate the visual evoked potential for migraine patients in Madras Medical College to know the pathogenesis of migraine in between attacks among 30 migraine

patients compared with 30 normal persons. The results were statistically significant increase in amplitude of P100 wave of migraine patients due to deficient habituation after a period of 15 min stimulation, after that, decrease in amplitude of normal patients.The results revealed that increase amplitude of p100wave, in migraineur has interictal dysfunction than in normal patients.

T Kurth tobias. (2015) Conducted prospective cohort study in united states, to evaluate the association between migraine and incident cardiovascular disease and cardiovascular mortality in women. Participants involved in the study115541 women aged between 25-42 years at baseline and free of angina and cardiovascular disease, among17 531 (15.2%) women reported as migraine, Over 20 years of follow-up, 1329 major cardiovascular disease occurred and 223 women were died from cardiovascular disease. Migraine was associated with an increased risk for major cardiovascular disease (hazard ratio 1.50, 95% confidence interval 1.33 to 1.69), myocardial infarction (1.39, 1.18 to 1.64), stroke (1.62, 1.37 to 1.92), and angina, coronary revascularization procedures (1.73, 1.29 to 2.32), compared with women without migraine. The results revealed that, migraine was significantly associated with increased risk for cardiovascular disease, mortality (hazard ratio 1.37, 1.02 to 1.83).

Smitherman TA, Burch R, et al **(2014**) conducted a population based study to estimate the prevalence of migraine head ache, measures of disability, treatment pattern. the National Health Interview Survey, the National Health and Nutrition Examination survey, American migraine prevalence and prevention study done in U.S. slightly higher proportion of 22.7% in the National Health and Nutrition Examination Survey, 16.6% of adults 18 or older reported having migraine or other severe headache. According to AMPP study overall prevalence of migraine of 11.7% and probable migraine of 4.5%, for a total of 16.2%, the burden of headache was highest in females

18-44 severe head ache 26.1%, males 4.6%,triptons used 80%. The prevalence and burden of headache was substantial even in the least affected subgroup previous 3 months. Results revealed that migraine associated increased risk of physical and psychiatric co morbidity.

Teri Robert (2013) Conducted a **study** large-scale population-based study to assess frequent Migraine attacks and and have a long history of Migraines an Increased risk of "silent brain damage," brain damage that does not seems to cause any symptoms. Study involved 28 patients with Migraine using high-resolution T1- and diffusion-weighted MRI and other advanced technology to identify areas of any damage to the brain. The researchers also used the technology to examine the brains of 28 patients without Migraine, as a control group. Migraineur who experience Migraine with aura have an increased risk of white matter lesions, and the risk of such lesions was increased even more with increased Migraine attack frequency. Results revealed that migraine may be a progressive brain disease.

Kulkarni G, RaoG et al (2010) Conducted a study to estimate the prevalence and disability burden attributed to migraine in Karnataka. Population based study used to select subjects random cluster sampling in urban n=1,226 and rural n=1,103 populations using a Modified Hardship questionnaire. Migraine was diagnosed as per ICHD-II criteria, Disability was assessed by HALT index. Age-standardized 1-year prevalence was 25.2% (95% CI: 23.9-27.4%; 10.6% definite, 14.6% probable migraine). Point prevalence 2.7%. Prevalence was greater among females and in rural areas. Prevalence peaked between 35-45 years in both genders and median frequency was 24 days/year, with a minority (6.6%) reporting >60 days/year, Headache intensity was severe in 40%. The overall mean total was 3.7 ±6.1 days/3 months, representing a loss of 6.1% of productive days, of which 2.1 ±4.0 days/3 months were lost at home

and 1.4 ±4.1 days/months were lost in the work place. Results revealed that Disability was higher among women and in rural areas.

Dr. Suzanne Hagler (2009) Conducted a study at Cincinnati Children's Hospital medical center evaluated over 7,400 participants, researchers took baseline levels of riboflavin, vitamin D, folate and coenzyme Q10. A high percentage of the children, teenagers and young adults had mild CoQ10, vitamin D and riboflavin deficiencies may cause Migraine. In young women and girls were more likely to experience a CoQ10 deficiency and boys were more to suffer from vitamin D deficiency. Participants suffering from chronic migraines at regular intervals had an increased risk of CoQ10 and riboflavin deficiency, compared to those with episodic migraines occurring at infrequent intervals. alarming 16% to 51 %of participants had below average levels of vitamins depending on the vitamin tested. These deficiencies are determined by the National Academy of Sciences Dietary Reference Intakes (DRIs). These national levels are set to prevent disease. A lack of magnesium may promote a number of different illnesses, including depression, platelet aggression, serotonin receptor function and influence production and use of neurotransmitters. Researchers revealed that migraine may develop due to the magnesium deficiency, CoQ10, vitamin D, riboflavin deficiency.

Markus Schruks, MD, et al, (2008) Conducted a meta analysis study to evaluate the association between migraine and mortality in America. Systematic review of Meta analysis study done, heterogeneity among study is moderate to high and pooled analyses of migraine subtypes cause-specific mortality. For any migraine pooled analysis does not suggest an association with all-cause (five studies; pooled relative risk [RR]=0.90, 95%CI 0.71–1.16), cardiovascular (CVD; six studies; pooled RR=1.09, 95%CI 0.89–1.32), or coronary heart disease mortality (CHD; three studies; pooled

RR=0.95, 95%CI 0.57–1.60). The studies revealed that migraine with aura increases risk for Cardio Vascular Disease and Coronary heart disease mortality.

Polyana Cristina Vilela Braga(2007) Conducted a cross sectional study to identify the occurrence of head ache as major cause of pain ,and characterizing effect on every day activities of nursing under graduate students at college of nursing of the federal university of goias,Brazil. Participants involved 203 students mean age 21 years 48.5% economic class A. Headaches were the major cause of pain for 34.5% of students; have strong intensity; throbbing (74.3%), stabbing (62.9%), and nausea / vomiting (55.7%); with episodes occur in afternoon (52.9%), and lasting for several hours a day (51.4%). On set of pain were: studying (17.1%) and stress (11.4 %). The activities most affected were: their capacity to concentrate (84.3%) and mood (84.3%) ($p<0.05$).Results revealed that headache, affect the students' everyday activities.

Cao Z, Chuang CT, CH Lai KL (2005) conducted a clinical trial study to compare resting-state EEG energy intensity and effective connectivity in different migraine phases involved patients with migraine without aura as compared with healthy controls in united states. 50 patients with episodic migraine, 20 Healthy control completed the study. Patients were classified into inter-ictal, pre-ictal, ictal, and post-ictal phases ($n = 22$, 12, 8, 8, respectively), using 36-h criteria. Compare healthy control,to inter-ictal and ictal patients had lower EEG power and coherence, except for a higher effective connectivity, in inter-ictal patients ($p < .05$). Compare to data obtained from the inter-ictal group, EEG power and coherence were increased in the pre-ictal group, with the exception of a lower effective connectivity in fronto-occipital ($p < .05$).Results revealed that Inter-ictal and ictal patients had decreased EEG power and coherence relative to healthy controls, were "normalized" in the pre-ictal or post-ictal groups.

Derosier F, Sheftell F, Silberstein (2004) Conducted a study randomised double blind study to compare the efficacy of a sumatriptan and naproxen combination medication , a butalbital-containing combination medication, and placebo used to treat moderate to severe migraine headache, in united states, among 442 subjects involved and 3 attack in adult migraineurs met International Classification of Head ache Disorders, the majority of subjects were female (88%) with a mean age 43 years. 88% Subjects were butalbital use ; 68% had butalbital for more than 6 weeks; and 82% reported satisfaction with butalbital. A cross treatment groups, 28-29% of subjects took medication within 15 minutes of migraine onset, 34-37% of subjects took medication >15 minutes to 2 hours after onset, 32-36% of subjects took medication more than 2 hours. Results were revealed sumRT/Nap was superior than the BCM medication with in 15 mts more effective in reducing migraine attack.

Kenneth Casey, MD (2003), conducted a study University of Michigan. School of Dentistry and Center for Human Growth and Development at the University of Michigan, utilized PET scans of the brain, and other measurements of brain activity and chemical composition to determine that dopamine levels demonstrate unusual patterns in migraineurs during an attack. In this study 8 individuals with migraine, and 8 as control without migraine. Measure dopamine levels and brain activity in each group during headache, migraine attacks, and non-attack state Decrease in dopamine levels for the migraine group, and only during a migraine attack, almost identical in both groups during the headache and non-attack state. while individuals with migraine were resting or sleeping during an attack, their brain experienced a small spike in dopamine levels leading to more nausea, vomiting and increased pain,

Dodick D, Brandes J, Elkind A et al conducted a study to assess the efficacy, speed of onset and tolerability of the nasal spray formulation of zolmitriptan in migraine

treatment. multicentre, randomised, double-blind study involved 2122 patients age of18-65 years who had an diagnosis of migraine (according to International Headache Society criteria with or without aura. Patients were randomised to receive zolmitriptan 5mg nasal spray or placebo to treat up to 2 migraine attacks within 15 minutes of headache pain becoming moderate or severe. After that post dose assessed at 2 hours, 1 hour, 30 minutes and 15 minutes and the headache response rate at 2 hours post-dose was 66.2% for the zolmitriptan group, compared with 35.0% for the placebo group ($p < 0.001$). Zolmitriptan nasal spray also produced significantly higher headache response earlier time points assessed, starting as early as 15 minutes post-dose ($p < 0.001$). Results revealed that significantly higher pain-free rates with zolmitriptan nasal spray, compared with placebo, from 15 minutes post dose ($p < 0.005$).

2.2. Review Literature Related to Cold Pack Application

Debbie B. from Los Angeles (2006) Conducted small clinical study at the University of California, San Diego Medical Center, 76% of migraine patients got relief, stating the ice therapy product tested, I.C.E. Down, reduced pain and throbbing. National Headache Foundation and the Mayo Clinic include cold compresses and ice packs among their recommendations to ease migraine symptoms. They makes for the most effective ice pack for headache. Cold application is a simple and inexpensive therapy which has been accepted as an effective non pharmacologic intervention for pain, decreases the inflammatory reaction and spasm.

Lance *et al*. (2011) conducted a study the results of a new device, which employs cold, pressure and heat around the head. Fifteen out of twenty migraine patients and six out of seven tension headache patients involved in the study experienced some reduction in headache severity. , 9% of migraine patients reported that a cold wrap was almost completely effective, 26.5% moderately effective and

29.0% mildly effective. However to evaluate headache severity, As a result, cold therapy is still used clinically for migraine patients as an alternative or additive modality.

Diamond S, Freitag FG (2006) conducted a cross over study at the Diamond Headache Clinic, Chicago, to the effectiveness of application of cold as an adjunctive therapy for acute headache. 90 outpatients were divided evenly into three groups according to headache type--migraine, cluster, and mixed and used the standard headache medication for two attacks, the standard medication plus application of cold with a reusable, frozen gel pack for two attacks. There was no significant difference in patient response to the gel pack by headache type. 71% of patients and 80%of those with migraine headache considered the pack effective; 52% reported an immediate decrease in pain, and 63% reported an overall decrease in pain. Results of Cold gel pack application effective in reducing the migraine head ache.

Olavi, Nils (2003) conducted a study prospective randomized double blinded controlled compared the efficacy of a novel cold gel with that of a placebo gel in patients with a soft tissue injury at University hospital in Kuopio, Finland. 74 patients with sports-related soft tissue injury were randomly assigned to active cold gel or placebo gel groups. The gel was applied four times daily on the skin for 14 days. Clinical assessment was made after 7, 14, and 28 days with use of visual analog scale ratings and Subjects satisfaction with treatment was 71% in the cold gel group and 44% in the placebo group. Disability decreased significantly more rapidly in the cold gel group. The study reported that cold gel therapy provided an effective and safe treatment for soft tissue injuries.

Kuzu N et al (2007) conducted a study among 63 patients to evaluate the effect of dry cold application on the occurrence of bruising and pain at injection site of

subcutaneous low molecular weight heparin at Brazil. Cold was applied 5min before injection in first group, after 5 min in second group while before and after 5min of the application in the third group and the fourth was kept as a control group. The pain intensity and indurations was measured at 48 and 72hrs. Results showed there is no significant difference in the incidence of bruising, however perception of pain was significantly reduced by cold application in the second group.

2.3. Review Literature related to Effectiveness of Cold Pack Application on Migraine

Vanderpol J, Bishop B, et al, (2015) conducted a study open label observational study to ascertain the effect of intranasal evaporative cooling an effective intervention used an acute 89migraine attack. 15 patients involved the International Classification of Headache Disorders (ICHD 2) diagnostic criteria for migraine were recruited. A total of 20 treatments were administered in 15 patients. pain score VAS Used. (based on a 0-10 visual analogue scale, [VAS].20 treatments, of intranasal evaporative cooling rendered to patients' pain and symptoms free immediately after treatment, in 8 of the treatments (40%), a further 10 treatments (50%) resulted in partial pain relief and partial symptoms relief. At 2 hours, 9 treatments (45%) full pain and symptoms relief, with a further 9 treatments (45%) resulting in partial pain relief. At 24 hours, 10 treatments (50%) reporting pain freedom and 3 (15%) provided partial pain relief. 13 patients were (87%) significantly reduced pain and benefited from the treatment within 2 hours

Friedman *et al*. (2011) conducted a study to efficacy of a non-invasive technique, intra-oral chilling, for acute migraine headache pain when compare with oral sumatriptan or placebo. Fifty participants involved in study, 9% of migraine patients reported that a cold therapy was almost completely effective, 26.5% moderately

effective and 29.0% mildly effective. However, they did not use an objective method to evaluate headache severity. As a result, cold therapy is still used clinically for migraine patients as an alternative or additive modality. In this study, we investigated the utility of cold therapy for migraine attacks approval to conduct the study for patients between 20 and 60 years.

Adam S Sprouse-Blum, MD, (2013) Conducted a randomized, controlled, crossover clinical trial study utilizing an adjustable neoprene neck wrap that holds two freezable ice packs, the institutional review board conducted a studyin kenya. Frozen or non-frozen participants involved in the study, to evaluates this method of treatment in a novel location at the neck Wrap.101 participants met IHS ICHD-2 criteria for migraine and were enrolled in the study As such, 55 participants were analysed Of these, 25.5% (n=14) met IHS criteria for migraine with aura and the rest (74.5%) met criteria for migraine without aura. 85.5% of participants (n=47) were female. Participant ages varied from 19 to 64 with a mean age of 43.1 ± 11.4 years. Reported frequency of migraine attacks less than one per month with a median frequency of 5.5 an interquartile range of 4.63 (25th percentile) and 28.75 (75th percentile). The frozen neck wrap was significantly more effective decreasing pain score, decrease in vascular permeability and a decrease in local nociceptive stimulation.

John F. Rothrock, M.D., Conducted a study at University of California, San Diego (UCSD) Medical Center. A clinical study of I.C.E. DOWN was performed on 25 patients with migraine and 25 patients with muscle tension headaches, or both, were Involved in the study. Only patients with a minimum of 10 headaches within 2 months study were used. Each patient was evaluated recent headache history, headache frequency, duration and intensity. All the patients were taking some form of medication for their headache and each agreed to stop their drug treatment for the duration of the

study. Each patient was supplied with the I.C.E.DOWN cold therapy head wrap and asked to use it in the event of a recurrence of a typical headache. Each patient was followed for a two-month period and at the end of that time an evaluation was done on each patient.73% of the patients improved since beginning the use of I.C.E. DOWN 83% would prefer, I.C.E. DOWN instead of a drug. 80% would recommend I.C.E. DOWN to their friends or family. 76% stated I.C.E. DOWN reduced pain and throbbing. 66% stated I.C.E. DOWN lessened the severity of pain. 53% stated I.C.E. DOWN helped muscle spasms in the back of the neck. Results revealed that significantly reduced migraine head ache.

Selekler HM, Erdogan Ms, Budak f (2004) Conducted a study to compare the prevalence and clinical characteristics of 'cold-induced headache' between migraine and episodic tension-type headache patients. 76 migraine and 38 episodic tension-type headache patients were included in the study. The pain occurrence period, its location and quality were recorded each patient felt pain in their head during the test procedure. Pain occur in 74% of migraine and 32% of 'tension-type headache' patients. Pain location was the temple in both groups, this rate was greater than twofold in migraine patients compare with episodic tension-type headache patients. Headache quality was throbbing in 71% of migraine patients, 8% of the episodic tension-type headache patients. Considering all the results, it seems that 'cold-stimulus headache' is not only more frequent in migraine patients, but also its location and quality differ from 'tension-type headache'.

Serap ulcer, Oslem Coskun (2006) Conducted a study Ankara training and research hospital open label non controlled study. A study involved 28 patients using cold therapy was administered to the by gel cap. Patients used this cap during their two migraine attacks. Before and after the cold therapy, headache severity was recorded by

using visual analogue scale (VAS). Patients used this cap after 25minutes in each application and recorded their VAS score just after the therapy and 25minutes, 1hr, 2hrs and 3hrs later, results revealed that Cold application alone may be effective in migraine attacks.

2. 4) Review Literaure Related to Other Treatment for Migraine

Timothy C. Hain MD. (2016) Conducted a study to Application of an ice pack and local scalp pressure are the most commonly used to evaluate non-pharmacological methods for temporary relief of migraine headache in south kenya. An elastic band secured the band was used to apply local pressure over the area of maximum pain in 25 patients with migraine headache. 3 headaches were studied in each patient. The 23 patients used the band in a total of 69 headaches. Pain relief was monitored for 30 minutes at 10 minute intervals. 60 headaches (87%) were relieved. 9 headaches (13%) were not improved. 67 % of those who improved (40 headaches) relief of over 80%, 25% percent (15 headaches) improved between 50–60% and 8% (5 headaches) 50% improvement. Results revealed that temporary relief of pain from mechanical compression of the scalp supports the possibility that the pain is reduced in migraine headache.

Ravikiran Kisan, MU Sujan, *et al* (2008) Conducted a randomized controlleds study to evaluate the efficacy of Yoga therapy to reduce the episode of head ache, at, denmark. Participants involved in study 60, coventional care 30, yoga with conventional care 30. Yoga practice session for 5 day a week for6 weeks along with conventional care. Clinical assessment and autonomic function test were done at the end of the intervention. At baseline headache intensity was 9.30 ± 1.15 and 8.70 ± 1.26 in Group CC and Group Y respectively. After the end of 6 weeks intervention migraine patients reported headache intensity as 7.73 ± 1.23 in group CC and 2.03 ± 1.29 in

group Y. The yoga group has shown significant reduction in heart rate ($P < 0.05$) compared to group CC. Group Yoga has shown more reduction in head ache frequency.

Dr Brendan Davies (2010) Conducted a clinical trial study to evaluate the Botox toxin A was used specifically for the treatment of chronic migraine the Medicines and Healthcare products Regulatory Agency (MHRA). Botox® has effective for any other headache type 1384 patients with chronic migraine, and randomised them to treatment with Botox or placebo. These patients were suffering on average 20 days of headache each month, of which 18 were moderate or severe. Those randomised to Botox received fixed-site, fixed dose injections every 12 weeks over 56 weeks. These injections covered seven specific areas of the head and neck, with a total dose of between 155-195 units. At six months, after two cycles of treatment, those treated with Botox had on average eight less days of headache each month. After 12 months, 70% of those treated had ≤50% the number of headaches that they had done originally. Botox was well-tolerated. Botulinum toxin has been to reduce Migraine head ache, including cervical dystonia, neuropathic pain, lower back pain, spasticity, myofascial pain, and bladder pain.

Kathryn M Rexrode (2009) Conducted a randomized study in Denmark to evaluate the effectiveness of foot refloxology in migraine. Twenty migraine headache sufferers received 240 reflexology treatments with an average of 12 sessions per patient for 2 months. Nine (45%) of the participants reported no longer having headaches, 6 (30%) reported considerable improvement in their condition, 2 (10%) stated they felt little better and 3 (15%) reported no improvement.

Younes Jahangiri Noudeh, MD, et al (2003) *Conducted a clinical study* to evaluate the non pharmacological techniques reducing the migraine head ache, in united states. 10 male patients (mean age was 32.0 ± 10.59 years) with acute onset of a

migraine headache according to IHS-2004 diagnostic criteria were involved in the study. Neck and upper thoracic spine massage and manipulation technique was performed. Headache pain intensity was scored before and after the intervention by means of a visual analog scale: Headache pain intensity was significantly reduced compared to the pretreatment values (1.85 ± 1.11 vs. 5.80 ± 2.25, p = .005). As a percentage, this represents a mean pain reduction of 68.77% ± 18.56 and all of the patients reported satisfaction with the intervention cervical and upper thoracic massage and manipulation technique could reduce the headache attack pain intensity.

2.5 Conceptual Frame Work

Conceptual frame work represents a less formal attempt at organizing phenomena than theories. It refers to the interrelated concepts or abstractions that are assembled together in some rationale scheme by virtue of their relevance to a common theme.

Thoerist information

Theorist Imogene king born in 1923.Bachelor in science of nursing from st. Louis University in 1948.Master of science in nursing from st. Louis University in 1957, Doctorate from teachers college, Columbia University. Theory describes a dynamic, interpersonal relationship in which a person grows and develops to attain certain life goals.

The present study was intended to determine the effectiveness of cold pack application in migraine headache attacks among male, and female. The conceptual frame work of the present study was developed by the investigator adopted Modified Imogine King's Goal Attainment Theory (1981) based on the personal and interpersonal systems including interaction, perception, judgment, communication and

transaction. The investigator adopted goal attainment as a basic theory for conceptual framework, which is aimed at effectiveness of cold pack application on acute episodic migraine patients will reduce the level of pain. This involves interaction between the researcher and the clients attending outpatient department of neuro medicine at Government Rajaji Hospital, Madurai.

Six major concepts describe the phenomena

Perception

Perception is a basic concept, that occurs through the use of both sensory " and Intellectual" tools. Perceptual congruence is an Important element in nurse –client interaction and is the first step in Mutual goal setting.

In present study, the investigator perceives that migraineur, are having moderate to severe head ache during head ache attacks that may affect their daily living and performance level. Migraineur perceive that there is need to control the pain intensity, frequency of occurrence so as to improve their well being

Communication

Communication is a process where by information is given one person to another either directly or indirectly. The vehicle by which human relations are developed and maintained encompasses intrapersonal, interpersonal, verbal and nonverbal communication.

Interaction

Interactions are the acts of two or more person in mutual presence, a sequence of verbal and non-verbal behaviors that are goal directed.

In this study, the investigators communicates with migraine clients and get their co-operation and select the willing eligible population.

Action

Action is sequence of behaviors involving mental and physical action. This refers to the changes that have to be achieved.

The researcher action is to provide cold pack application on acute episodic pain on migraine clients to reduce the the level of pain, frequency of attack and clients receive it.

Reaction

Which is considered as included in the sequence of behaviors described in action. In addition King's discussed about- goal, domain and functions of care provider. Reaction helps in setting a mutual goal.

In this study the researcher and migraine clients to set a mutual goal. Here the mutual goal is reduction of pain by appling cold pack intervention.

Transaction

Transaction is process of interaction in which human beings communicate with the environment to achieve goals that are valued; goal directed human behaviors. In transaction two individuals mutually identify goal and the means to achieve it.

Here the researchers goal is achievement of the reduction in level of pain and evaluate the effectiveness of Cold pack intervention on migraine Measured by Numerical Rating scale.

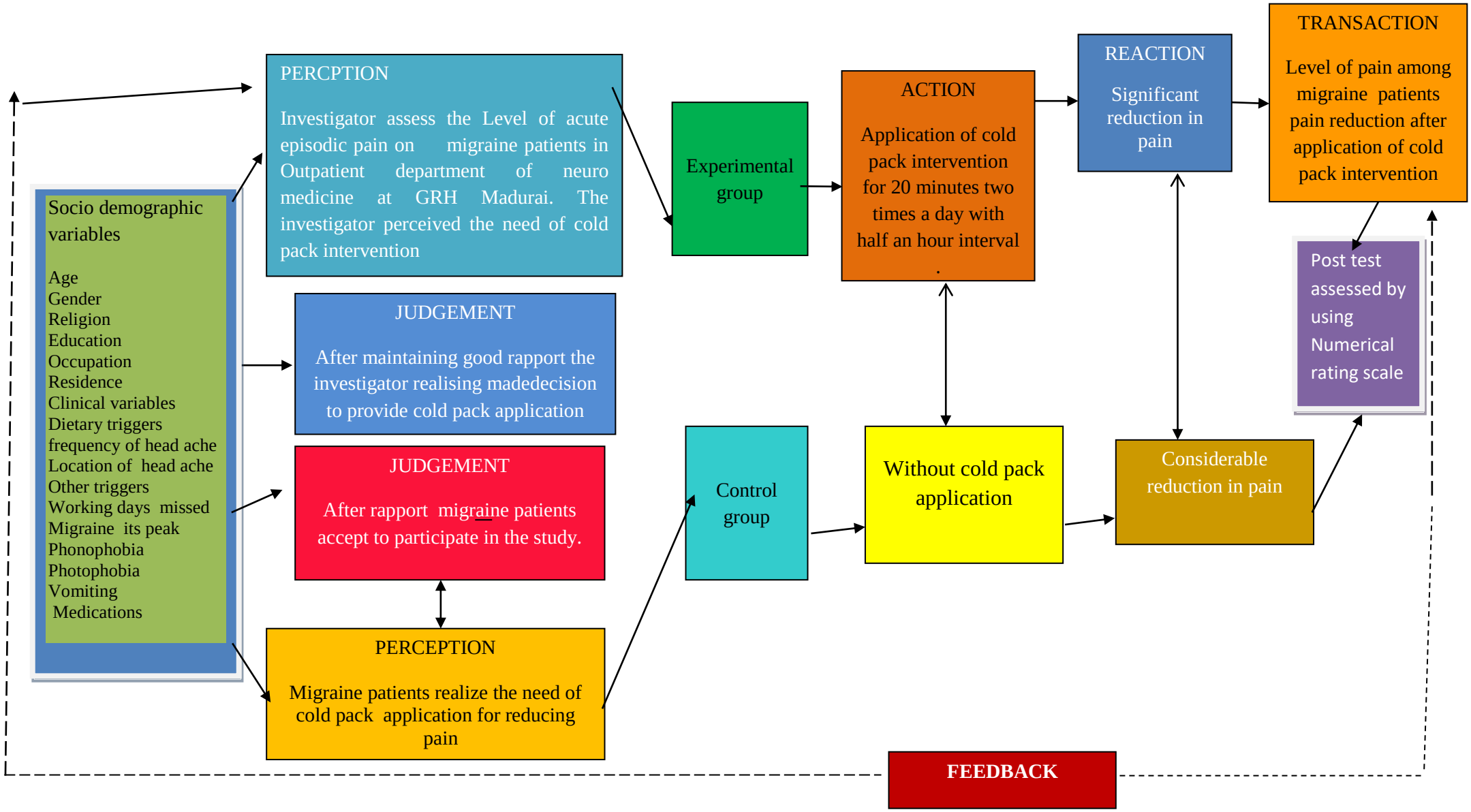


Figure : 1. CONCEPTUAL FRAME WORK BASED ON MODIFIED KING'S GOAL ATTAINMENT THEORY (1981)

RESEARCH METHODOLOGY

CHAPTER-III

RESEARCH METHODOLOGY

Research methodology is a way we systematically solve the research problems. Designing a research involves the development of plan or strategy that will guide the collection and analysis of the data. The present study is designed to evaluate the effectiveness of Cold pack application on acute episodic Pain among patients with migraine in OPD. Methodology is an investigation and the ways of obtaining, organizing and analyzing data. This chapter deals with the description of the methods and different steps used for collecting and organizing the data. It includes the research approach, research design, and setting of the study, sample and sampling technique. It further deals with development and description of tool, procedure for data collection and plan for data analysis.

3.1 Research approach

The research approach tells the researcher from where the data to be collected, what to collect ,how to collect and how to analyze them. It also suggests a possible conclusion and help the researcher in answering specific research questions in an accurate and efficient way.

In this study, Quantitative research approach was adopted

3.2 Research design

The research design used for this study is -True Experimental design - pre test post test only design.

R

GROUP	PRETEST	INTERVENTION	POSTTEST
Experimental group	O_1	X	O_2
Control group	O_1	___	O_2

O1- Pretest level of acute episodic pain score

X- Intervention of Cold pack application 20 minutes, two times with half an hour interval in the Morning.

O2- Post test level of acute episodic pain score

R- Randamization

3.3 Research variables

Independent variable: Cold pack application

Dependent variable: level of acute episodic pain

Socio demographic variables - Age, Gender, Religion, Education, Occupation, residence Income

Clinical Variables –Dietary triggers, frequency of head ache, How long head ache will lost , prescribed medications ,working days missed due to head ache, other head ache triggers, location, migraine peak, pulsating quality, fatigue, Photophobia, Phonophobia, Vomiting, sleep quality, Radiological Investigations

3.4 Research Setting

The study was conducted in outpatient department of Neuro Medicine at, Government Rajaji Hospital Madurai. It is a 3106 bedded Multy specialty, Medical college attached Hospital and it provides comprehensive care to all .Government Medical college Hospital has all speciality departments .The Hospital has separate Neuro medicine Outpatient department is attending patients 250to 400 per day, 8to 10 patients of migraine per day, an annual census of 2600 patients have migraine.

3.5 Population

Target population

The target population were migraine patients.

Accessible population

The accessible population were acute episodic pain of migraine patients both male and female in out patient department of Neuro Medicine at Government Rajaji Hospital, Madurai.

3.6 Sample

Migraine Patients in Neuro Outpatient department at Govt Rajaji Hospital, Madurai and those who met the inclusion criteria

3.7 Sampling technique

Samples for this study were selected by Simple random sampling technique.

3.8 Sample size

The sample size was 60, experimental group -30, control group-30

3.9 Criteria for sample selection

Inclusion criteria

i. Clients with Acute episodic pain
ii. Clients those Who are under treatment of propranolol, Amitriptyline

Exclusion criteria

i. Menstrual migraine
ii. Pregnancy
iii. vertigo
iv. Clients with other Systemic diseases
v. sinusitis

3.10 Research tool and technique

The technique used in this study was structured interview method.

Description of tool

The tool consist of two sections

Section I Socio demographic variables and clinical Variables

Section II Pain scale-Numerical rating scale, International Headache Society Criteria

Section I

It consist of socio demographic variables such as age, religion, educational status, occupation, monthly family income, place of domicile, frequency of head ache, how long head ache will last, number of working days missed /3 month, dietary triggers of migraine, other head ache triggers, any medication used for migraine, peak time of pain, location of head ache, pulsating quality, photophobia, phonophobia, vomiting, sleep, Investigations.

Section II

Pain scale-Numerical rating scale, International head ache society criteria, used for assessing Migraine patients.

Scoring procedure

Section I Socio demographic and clinical variables no scoring

Section II Migraine Head ache scored by pain numerical rating scale Migraine Head ache scored, by pain numerical Rating scale, ranging from 0-10

0- No pain

1-3 Mild pain

4-6 Moderate pain

7-10 Severe pain

Level of pain	Score
No pain	0
Mild pain	1-3
Moderate pain	4-6
Severe pain	7-10

Testing of the tool

3.11 Content validity

The content validity of the tool with evaluation criteria checklist was submitted to one experts in the field of Neuro Medicine and three experts in Medical surgical Nursing for the opinion of the items in the tool. There was agreement by the experts and minimal modification were made in socio demographic variables and clinical variables based on their suggestions. Tool was translated in to Tamil to confirm language validity.

3.12 Reliability

The Reliability of an instrument is the degree of consistency with which it measures the attribute and it is supposed to be measuring over a period of time. The tool was a standardized one which underwent test retest for reliability. Pain numerical rating scale has been used on two different occasions and the reliability has been estimated using the karl pearson's correlation coefficient formula, that is Hence the tool is considered as reliable and used in this study.

3.13 Pilot study

Pilot study conducted in Neuro medicine out patient department in Govt Rajaji hospital Madurai from 6.3.17-12.3.17 to test the feasibility of setting, samples, relevance and practicability of the intervention among subjects10 samples those who fulfill the inclusion criteria were chosen by using samples were randomly assigned to

intervention group and control group by lottery method formal permission obtained from the head of the department of neuro medicine. Informed consent was obtained from the samples and data was collected pre assessment test level of acute episodic pain among migraine using pain rating scale. Cold pack intervention done two times half an hour interval, post test was done using same scale. After the pilot study Presentation as per the experts suggestion questionnaire 8 and 9 Merged into one question. The findings evidenced that there is significant statistical difference in pre test and post test scores on the level of pain reduction in migraine patients, the study tool was feasible and practicable to conduct the study.

3.14 Ethical Consideration

This study was conducted after the approval from the ethics committee, Madurai Medical College, Madurai – 20. All the respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Confidentiality was ensured. Written permission was obtained from all participants.

3.15 Data Collection Procedure

The researcher obtained formal permission from Ethical committee of Madurai Medical College, Madurai, and the study was conducted for a period of 6 weeks from 20.3.17 to 30.4.17 in outpatient department of Neuro Medicine at, Government Rajaji Hospital Madurai. Rapport was established with migraine patients. After a brief introduction about the study, its purpose and Informed consent obtained from migraine patients. Based on inclusion criteria samples 60 selected by simple random sampling technique. Pretest data was collected by researcher using International Head ache Society criteria, and numerical Pain rating scale. Cold pack was wrapped in a small towel and place over on the patients fore head for 20 minutes, two times with half an

hour interval per day. The post test and at Pain level was assessed using Pain numerical rating scale and assessed the diagnostic criteria, and level of Pain Irrespectively.

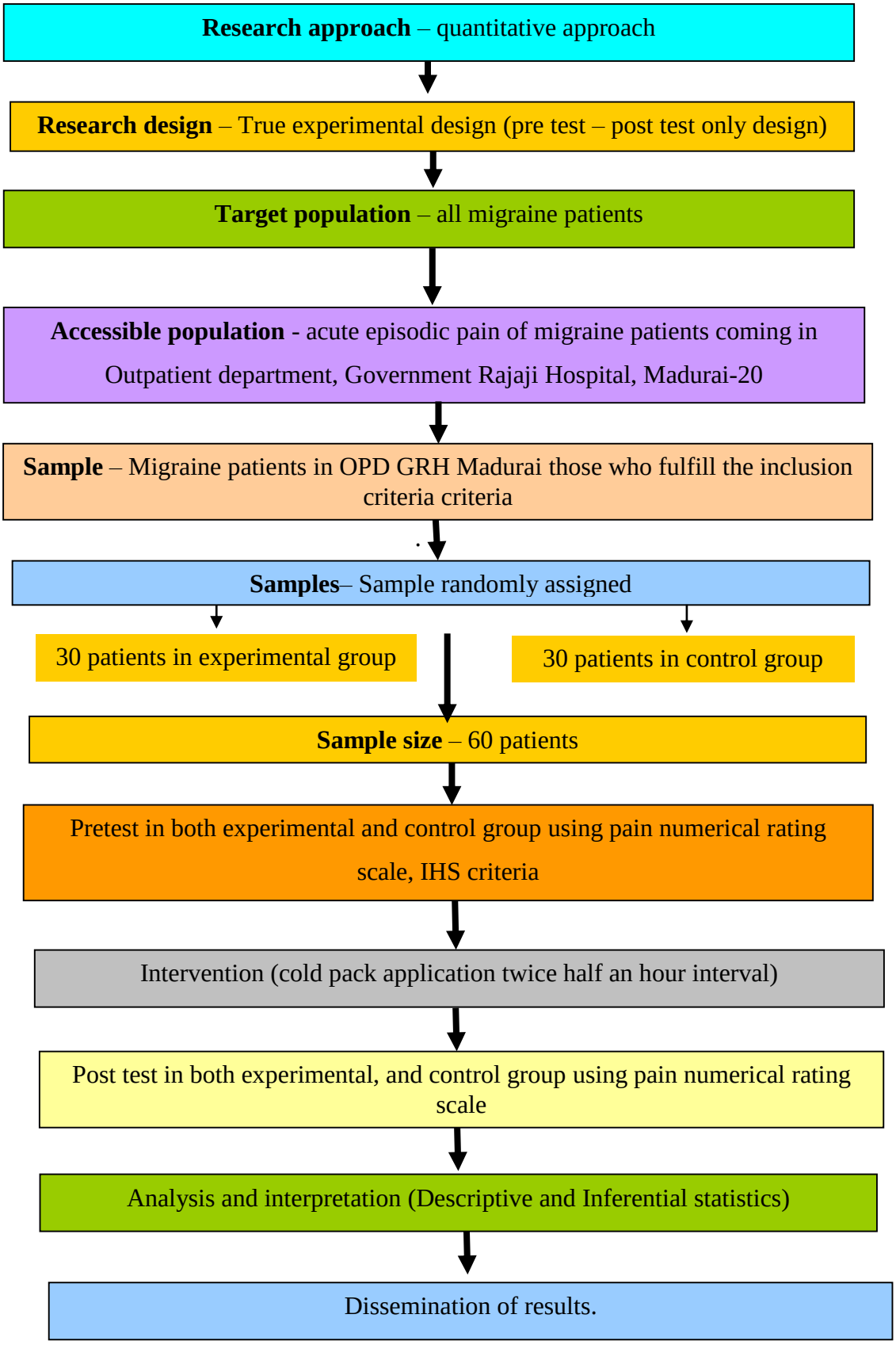
3.16 Plan for Data Analysis

The data analysis was done according to the objectives of the study. Both descriptive and inferential statistics were used. Socio demographic and clinical variables data were analyzed in frequency and percentage distribution. Mean and standard deviation were used to analyze the changes in the level of acute episodic pain among Migraine patients. Paired 't' test, unpaired t test was used to evaluate the effectiveness of cold pack intervention on acute episodic pain . Chi-square test was used to determine the association of level of acute episodic pain with their selected socio demographic and clinical variables and to compare pre and post test pain level. Simple bar diagram, multiple bar diagram, and cylinderical diagram were used to represent the data p-value of ≤ 0.05 was considered statistically significant.

3.17 Protection of human rights

The proposed study was conducted after the approval of Ethical committee of Madurai Medical College, Madurai. Informed Consent was obtained from the Migraine patients before starting the data collection. Confidentiality was maintained. The formal approval was obtained from the Head of the Department of Neuro Medicine. The name of the subjects was not disclosed at any time. Assurance was given that they can withdraw from the study at any time. The possible benefit of participating in the study was explained to the subjects and anonymity was maintained throughout the study.

SCHEMATIC REPRESENTATION OF METHODOLOGY



DATA ANALYSIS AND INTERPRETATION

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is a systematic organization and synthesis of research data and testing of research hypothesis using those data. Interpretation is the process of taking sense of the result and examining their implications. This chapter deals with the analysis and interpretation of data collected from 60 samples of patients With Migraine to evaluate the achievement of the objectives of the study. This study was done to evaluate the effectiveness of Cold pack application on Acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital, Madurai.

The data collected were interpreted under the following sections

Section –I: Distribution of socio demographic variables and clinical variables among Patients With migraine.

Section – II: Description of level of acute episodic pain among patients with Migraine

Section – III: Effectiveness of Cold pack application on acute episodic pain among Patients with Migraine.

Section – IV: Association between the level of Acute episodic pain among patients with Migraine and their selected socio demographic variables and clinical variables.

Section I

Distribution of socio demographic variables and clinical variables among With Migraine patients

Table – I

Frequency and percentage distribution of socio demographic variable among patients with Migraine

Demographic variables		Group			
		Experiment(n=30)		Control(n=30)	
		f	%	f	%
Age	21-30 years	9	30.0%	14	46.7%
	31-40 years	11	36.6%	9	30.0%
	41-50 years	8	26.7%	5	16.6%
	> 50 years	2	6.7%	2	6.7%
Gender	Male	2	6.7%	4	13.3%
	Female	28	93.3%	26	86.7%
Religion	Hindu	27	90.0%	28	93.4%
	Christian	2	6.7%	1	3.3%
	Muslim	1	3.3%	1	3.3%
Education	Primary education	10	33.3%	8	26.7%
	Secondary education	11	36.7%	7	23.3%
	Higher secondary	3	10.0%	8	26.7%
	Graduate	3	10.0%	3	10.0%
	No formal education	3	10.0%	4	13.3%
Occupation	Company	6	20.0%	5	16.7%
	Daily wages	4	13.3%	8	26.7%
	Business	4	13.3%	3	10.0%
	Housewife	13	43.4%	10	33.3%
	Unemployed	3	10.0%	4	13.3%
Residence	Rural	12	40.0%	17	56.7%
	Urban	18	60.0%	13	43.3%

The above table reveals the socio demographic variables data among Patients with migraine, such as Age, Gender, Religion, Education, Occupation, and Residence. Regarding Age, Majority of patients with migraine in Experimental group 11(36.6%) between 31-40 years, 9 (30.0%), were Between 21- 30 years, 8(26.7%) between 41- 50 years and remaining 2(6,7%) were more than 50 years. In control group Majority of patients 14(46.7%) between 21-30 years,9(30.0%)were between31-40 years ,5(16.6%) were between 41-50 years , and 2(6.7%) were more than 50 years.

With regard to Gender, majority of patients with migraine in experimental group 28 (93.3%) were Females and remaining 2 (6.7%) were males, in control group 26(86.7 %) were females and remaining 4(13.3%) were males.

While comparing, Religion majority of patients with migraine in experimental group 27(90.0 %) were belonged to Hindu, 2(6.7%) were belonged to Christian, 1(3.3%) were belonged to Muslim. In control group 28(93.4%) were belonged to Hindu, 1(3.3%) were belonged to Christian, and 1(3.3%) were belonged to Muslim.

According to Education, majority of patients with migraine in experimental group 11(36.7%) were attained Secondary Education, 10(33.3%) were Primary Education, 3(10.0%) were Higher Secondary Education, Graduate, and No formal education. In control group 8(26.7%) were attained Higher Secondary Education and Primary Education, 7(23.3%) were Secondary Education, 4(13.3%) had No formal education, and the remaining 3(10.0%) had Graduates.

By seeing Occupation majority of patients with Migraine in Experimental group 13(43.4%) were House wife, 6(20.0%) were working in Company, 4(13.3%) were Daily wages, 4(13.3%) were Business and 3(10.0%) were un employed. In control group 10(33.3%) were House wife, 8(26.7%) were Daily wages, 5(16.7%) were working in Company, 4(13/3%) were Unemployed, 3(10.0%) were Business.

While discussing Residence, majority of Patients with Migraine in Experimental group 18(60.0%) were Urban people, 12(40.0%) were rural people. In control group 17(56.7%) were rural people, 13(43.3%) were Urban people.

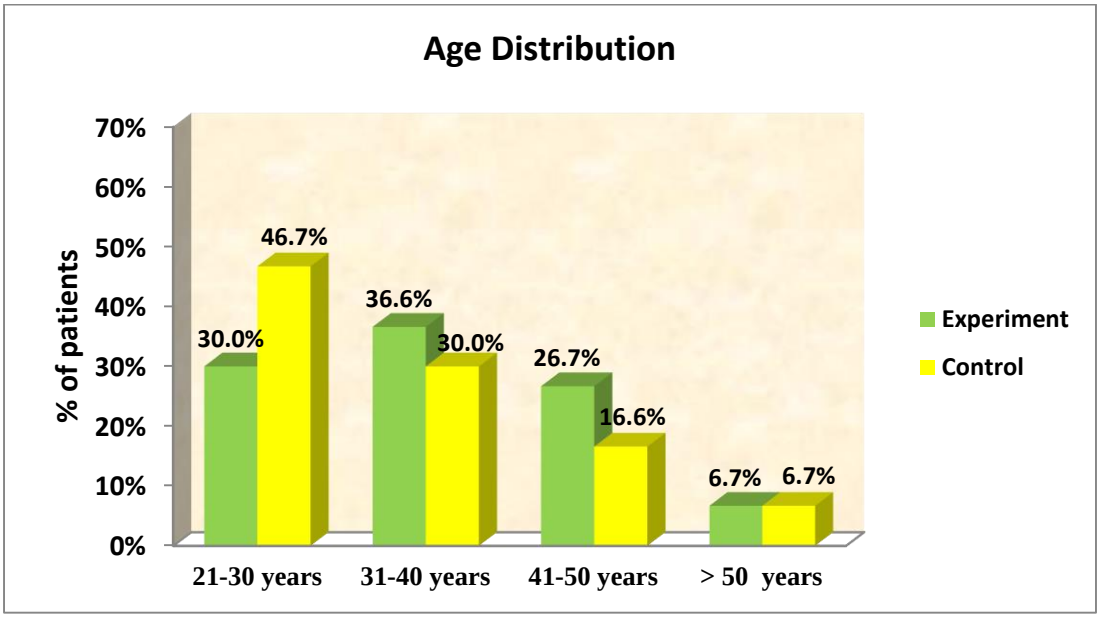


Figure : 2. Percentage distribution of subjects according to their age in both experimental and control group

The above clustered bar diagram reveals that the majority of the study participants (36.6%) in experimental group is 31-40 Years and (46.7%) in control group is between 21-30 years, (6.7%%) in minor both experimental and control group is more than >50years.

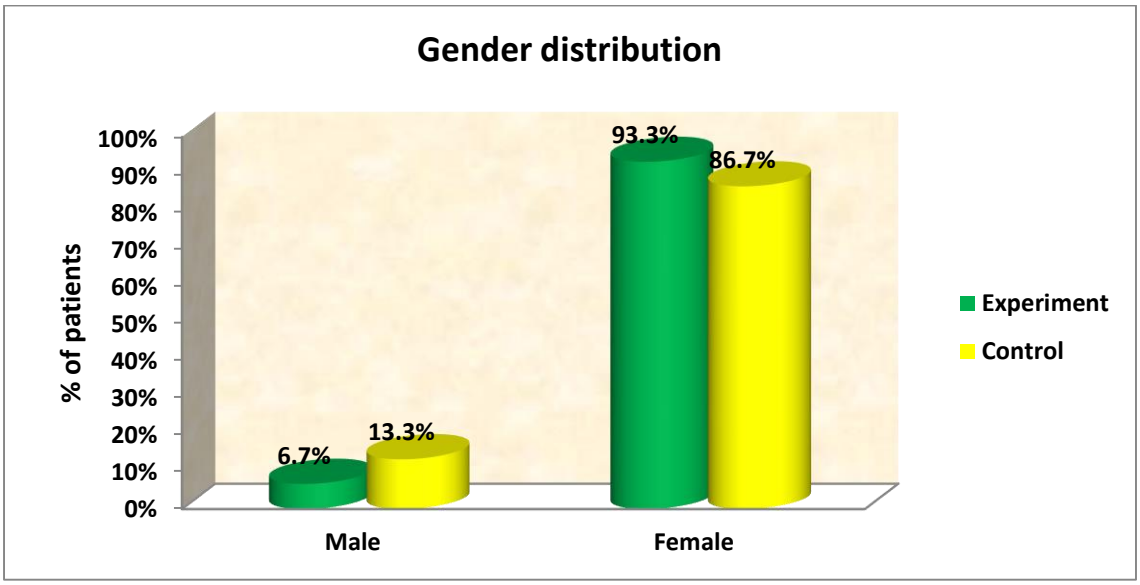


Figure : 3. Percentage distribution of gender among patients with migraine

The above clustered cylindrical diagram reveals that the majority of the participants in experimental group, (93.3%) were female, (86.7%) were female in control group. In minor (6.7%) were male in experimental group and (13.3%) were male in control group.

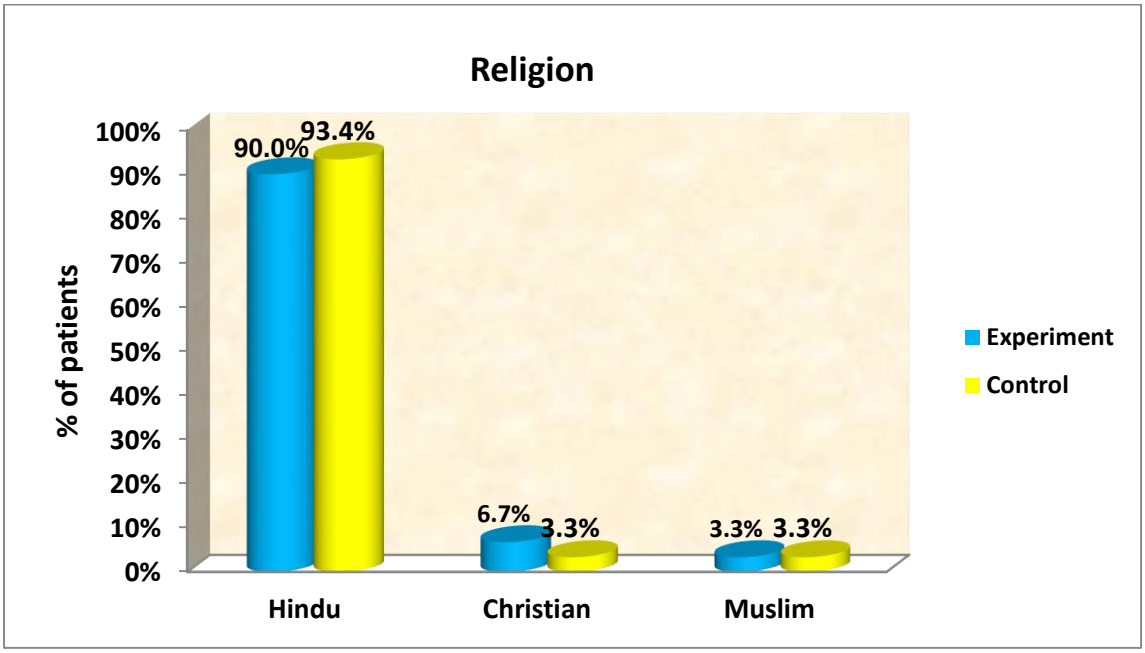


Figure: 4. Percentage distribution of religion among patients with migraine

The above clustered cylindrical diagram reveals that the majority of the participants in experimental group (90.0%) were hindu, in control group, (93.4%) were hindu, in experimental group (6.7%) were christian, in control group(3.3%),were Christian, (3.3%) were Muslim, both experimental & control group.

Table – 2

Frequency and percentage distribution of Clinical variable among patients with Migraine

Clinical variables		Group			
		Experiment (n=30)		Control (n=30)	
		f	%	f	%
Dietary triggers	Cheese	14	46.7%	12	40.0%
	Citrus fruits	1	3.3%	1	3.3%
	Coffee	1	3.3%	1	3.3%
	Missed meal	3	10.0%	4	13.4%
	Ice cream	5	16.7%	6	20.0%
	None	6	20.0%	6	20.0%
Frequency of head ache (in times/week)	1 -2 times	21	70.0%	24	80.0%
	3 -4 times	9	30.0%	6	20.0%
How long the head ache will usually last(in hours)	4 -10	21	70.0%	17	56.7%
	11 -17	1	3.4%	6	20.0%
	18 -24	4	13.3%	3	10.0%
	> 24	4	13.3%	4	13.3%
Medication used	Yes	30	100%	30	100%
	No	0	0%	0	0%
No. of work days missed	1 to 2days /3month	6	20.0%	7	23.3%
	3 to 4days /3month	2	6.7%	1	3.3%
	>4days /3month	1	3.3%	2	6.7%
	None	21	70.0%	20	66.7%
Other triggers	Stressful event	15	50.0%	13	43.3%
	Exposure to sunlight	4	13.3%	2	6.7%
	Strong odor	3	10.0%	1	3.3%
	Loud noise	2	6.7%	4	13.3%
	Exposure to bright light	1	3.3%	1	3.3%
	Fatigue	1	3.3%	1	3.3%
	Travel	1	3.3%	4	13.3%
	Sleep disturbances	3	10.0%	4	13.3%
Which time peak	Early morning	13	43.3%	9	30.0%
	Afternoon	11	36.7%	11	36.7%
	Evening	3	10.0%	9	30.0%
	Night	3	10.0%	1	3.3%
Location of Head ache	Once side	20	66.7%	23	76.7%
	Both side	2	6.7%	2	6.7%
	Back of the head , along with neck	8	26.6%	5	16.6%

Pulsating quality	Yes	28	93.3%	25	83.3%
	No	2	6.7%	5	16.7%
Fatigue	Yes	27	90.0%	27	90.0%
	No	3	10.0%	3	10.0%
Photophobia	Yes	26	86.7%	24	80.0%
	No	4	13.3%	6	20.0%
Phonophobia	Yes	25	83.3%	26	86.7%
	No	5	16.7%	4	13.3%
Vomiting	Yes	18	60.0%	16	53.3%
	No	12	40.0%	14	46.7%
Sleep	Sleep disturbance	22	73.3%	25	83.3%
	Normal sleep	8	26.7%	5	16.7%
Have you underwent Investigations	Yes	23	76.7%	28	93.3%
	No	7	23.3%	2	6.7%

The above table reveals that Based on the **Dietary triggers**, Majority of patients with migraine In experimental group 14(46.7%) were taking Cheese, 6(20.0%) had None of dietary trigger, 5(16.7%) had Ice Cream, 3(10.0%) had missed meal and remaining 1(3.3%) had Citrus fruits, and coffee. In Control group 12(40.0%) had Cheese, 6(20.0%) had Ice Cream and none of dietary trigger, 4(13.4%) were missed meal, 1(3.3%) had Citrus fruits and coffee.

Regarding the **Frequency of Head ache,** majority of the Patients with Migraine In Experimental group 21(70.0%) had 1- 2 times attack per week, 24(80.0%) were 1-2 times per week in control group. In minor 24(30.0%) had 3- 4 times attack per week, 6(20.0%) were 3-4 times per week in control group.

According to the **How long Head Ache will Lost (in hours),** majority of the Patients with migraine In experimental group 21(70.0%) had pain 4-10 Hours, 4(13.3%) had pain 18-24 Hours, and >24 Hours and remaining 1(3.4%) had 11-17 Hours. In Control group 17(56.7%) had pain 4-10 Hours, 6(20.0%) had 11-17 Hours, and remaining 4(13.3%) had >24 Hours, 3(10.0%) had 18-24 Hours.

Discussing **Medication used,** majority of the Patients with Migraine 30(100%) had medicine both experiment and control group and (0%) none of them with out medicine.

While assessing on **No of working days Missed**, majority of the Patients with migraine In experimental group 21(70.0%) None of them absent, 6(20.0%) had 1-2 days missed/3 month, 2(6.7%) had 3-4 days missed/3 month, 1(3.3%) had >4 days missed/3 month. In Control group 20(66.7%) had None of them absent, 7(23.3%) had1-2 days missed/3 month, 2(6.7%) had >4 days missed/3 month and remaining 1(3.3%) had 3-4 days missed/3 month.

Discussing the **other triggers,** majority of the Patients with Migraine In experimental group 15(50.0%) had Stressful event, 4(13.3%) had Exposure to sunlight, 3(10.0%) had Strong Odour and Sleep disturbances, 2(6.7%) had Loud noice, 1(3.3%) had exposure to Bright light, Fatigue, and Travel. In Control group 13(43.3.%) had Stressful event, 4(13.3.%) had Loud noise, Sleep disturbances, and Travel, 2(6.7%) had Exposure to sun light, 1(3.3%)had exposure to Bright light, Strong Odour and Fatigue.

Based on **Which time pain in Peak** majority of the Patients with Migraine In experimental group 13(43.3%) had pain in early morning, 11(36.7%) had pain in after noon, 3(10.0%) had pain in evening and night. In control group 11(36.7%) had pain in afternoon, 9(30.0%) had pain in early morning and evening,1(3.3%) had pain in Night.

Discussing the **Location of Head ache** majority of the Patients with Migraine In experimental group 20(66.7%) had pain One side, 8(26.6%) had pain back of the head along with neck, 2(6.7%) had both side. In Control group 23(76.7%) had pain in One side, 5(16.6%) had pain in Back of the head along with neck, 2(6.7%) had pain in both side.

Assesssing to **Pulsating quality pain** majority of the Patients with migraine In experimental group 28(93.3%) had pulsating pain Remaining 2(6.7%) none of them had pulsating pain. In Control group 25(83.3%) had pulsating pain, remaining 5(16.7%) none of them had pulsating pain.

Based on **Fatigue** majority of the Patients with migraine In experimental group 27(90.0%) had fatigue 3(10.0%) none of them had fatigue both experimental and control group . In control group 27(90.0%) had fatigue.

Assessing on **Photophobia** majority of the Patients with migraine In experimental group 26(86.7%) had photophobia, 4(13.3%) none of them had photophobia. In control group 24(80.0%) had photophobia, 6 (20.0%) none of them had photophobia.

Collecting data on **Phono phobia** majority of the Patients with migraine In experimental group 25(83.3%) had phonophobia, 5(16.7%) none of them had phonophobia. In control group 26((86.7%) had phonophobia 4(13. 3%) none of them had phonophobia.

While assessing the **vomiting** majority of the Patients with Migraine In Experimental group 18(60.0%) had vomiting, 12(40.0%) none of them had vomiting. In control group 16((53.3%) had vomiting. 14(46.7%) none of them had vomiting.

Discussing to **Sleep** disturbance majority of the Patients with migraine In experimental group 22(73.3%) had sleep disturbance, 8(26.7%) had normal sleep. In control group 25((83.3%) had sleep disturbance, 5(16.7%) had normal Sleep.

Based on **Have you underwent radiological investigations** majority of the Patients with Migraine In Experimental group 23(76.7%) were investigated, 7(23.3%) none of them had investigated. In control group 28((93.3%) were investigated, 2(6.7%.) none of them had investigated.

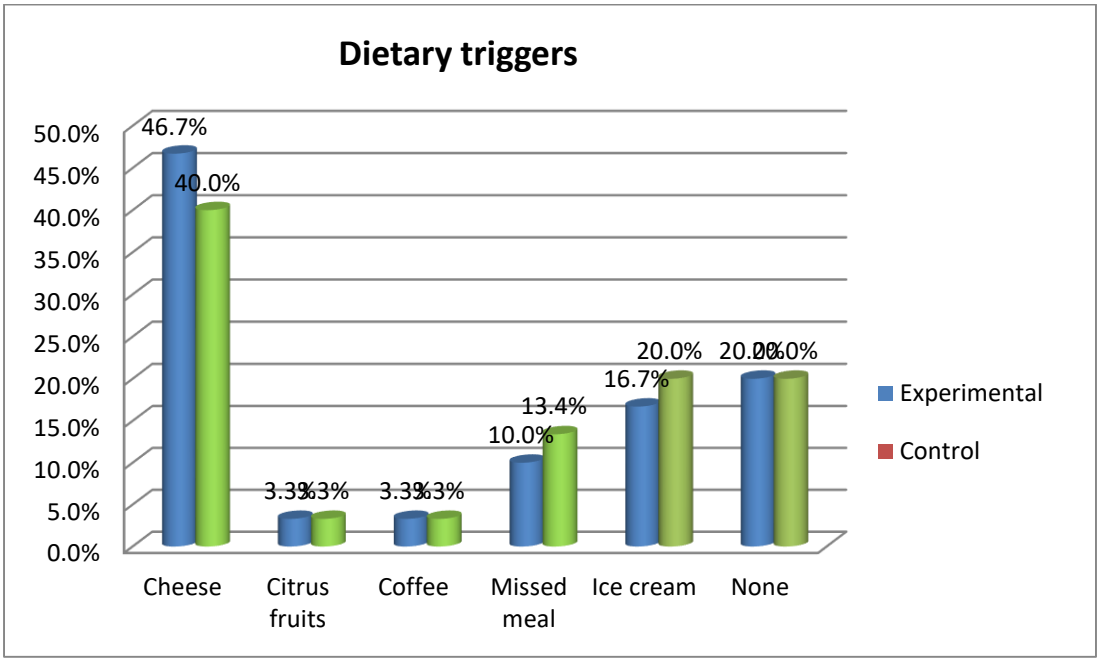


Figure: 5. Percentage distribution of Dietary triggers among Migraine patients

The above diagram Shows that Based on the **Dietary triggers**, majority of patients with migraine in experimental group 14(46.7%) were taking Cheese and remaining 1(3.3%) had Citrus fruits, and coffee. In Control group 12(40.0%) had taking Cheese, 1(3.3%) had Citrus fruits and coffees.

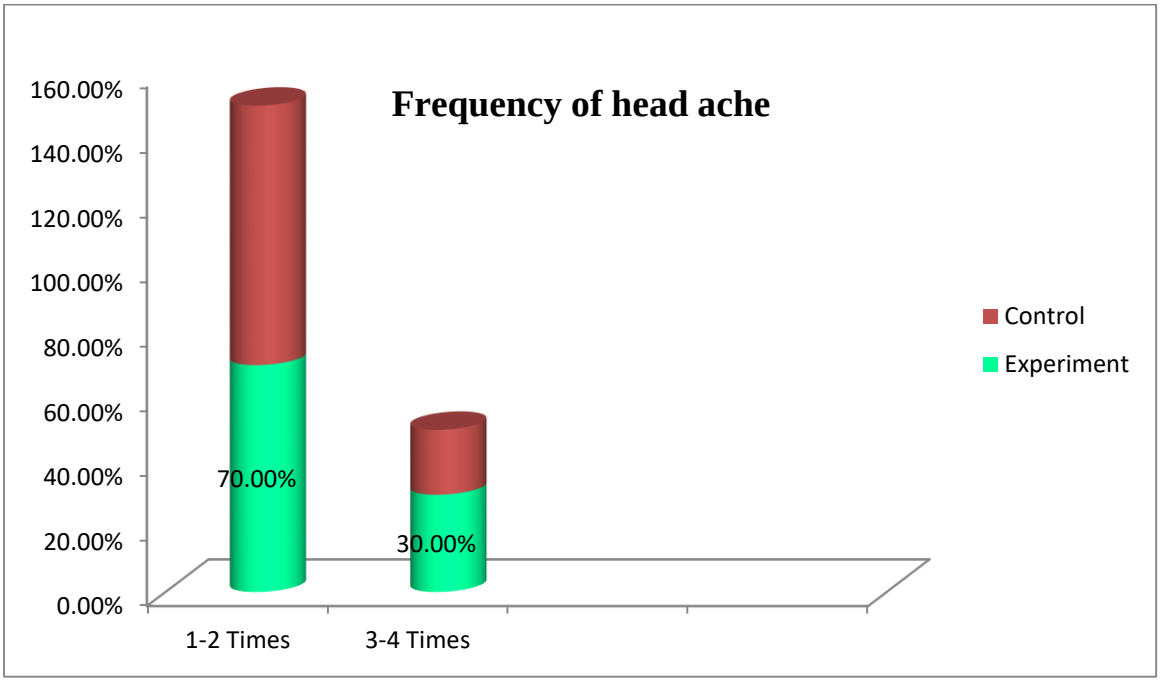


Figure : 6. Percentage distribution of Frequency of head ache among Migraine patients

The Above cylindrical diagram revealed that **Frequency of Head ache,** majority of the Patients with migraine In experimental group 21(70.0%) had 1- 2 times attack per week, 24(80.0%) were 1-2 times per week in control group. In minor 24(30.0%) had 3- 4 times attack per week, 6(20.0%) were 3-4 times per week in control group.

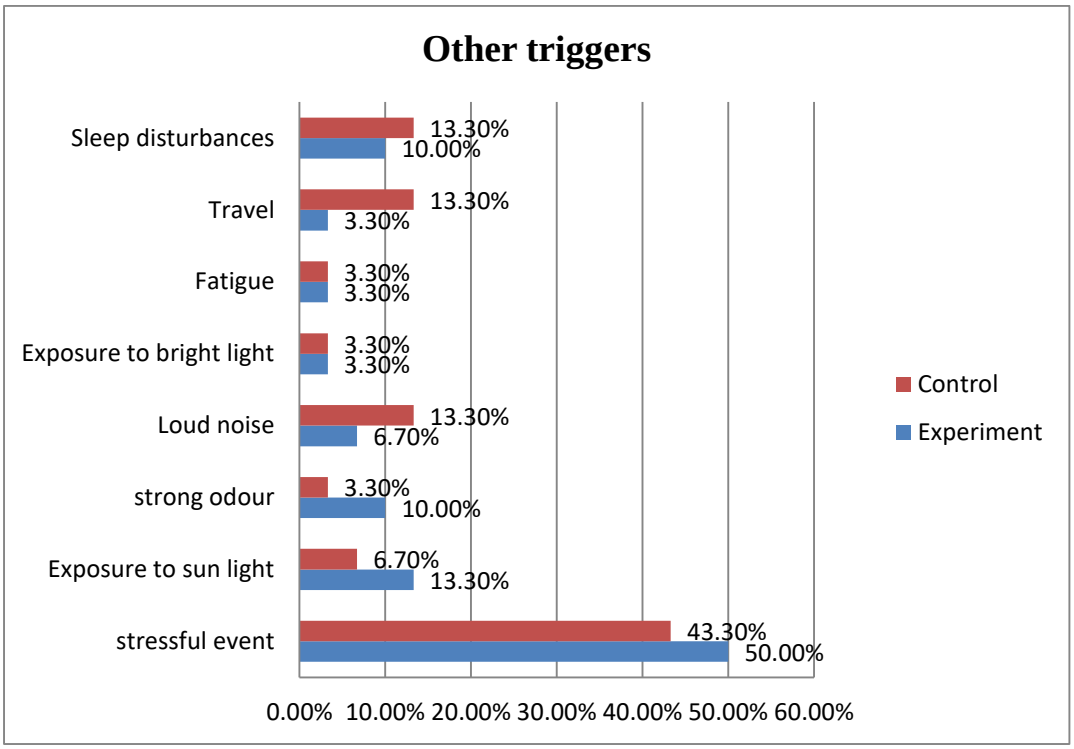


Figure : 7. Percentage distribution of other triggers among Migraine patients

The above clustered diagram shows **other triggers,** majority of the Patients with Migraine In experimental group 15(50.0%) had Stressful event, 4(13.3%) had Exposure to sunlight, 3(10.0%) had Strong Odour and Sleep disturbances, 2(6.7%) had Loud noice, 1(3.3%) had exposure to Bright light, Fatigue, and Travel. In Control group 13(43.3.%) had Stressful event, 4(13.3.%) had Loud noise, Sleep disturbances, and Travel, 2(6.7%) had Exposure to sun light, 1(3.3%)had exposure to Bright light, Strong Odour, and Fatigue.

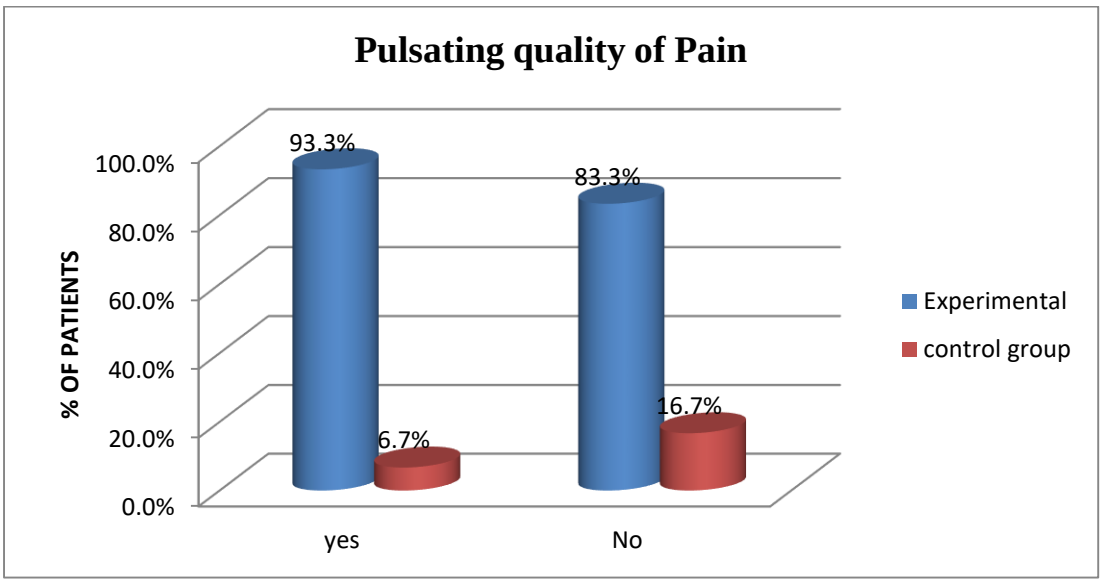


Figure: 8. Percentage distribution of pulsating quality of pain among Migraine patient

The above cylindrical bar diagram revealed that Assesssing to **Pulsating quality pain** majority of the Patients with migraine In experimental group 28(93.3%) had pulsating pain Remaining 2(6.7%) none of them had pulsating pain. In Control group 25(83.3%) had pulsating pain, remaining 5(16.7%) none of them had pulsating pain.

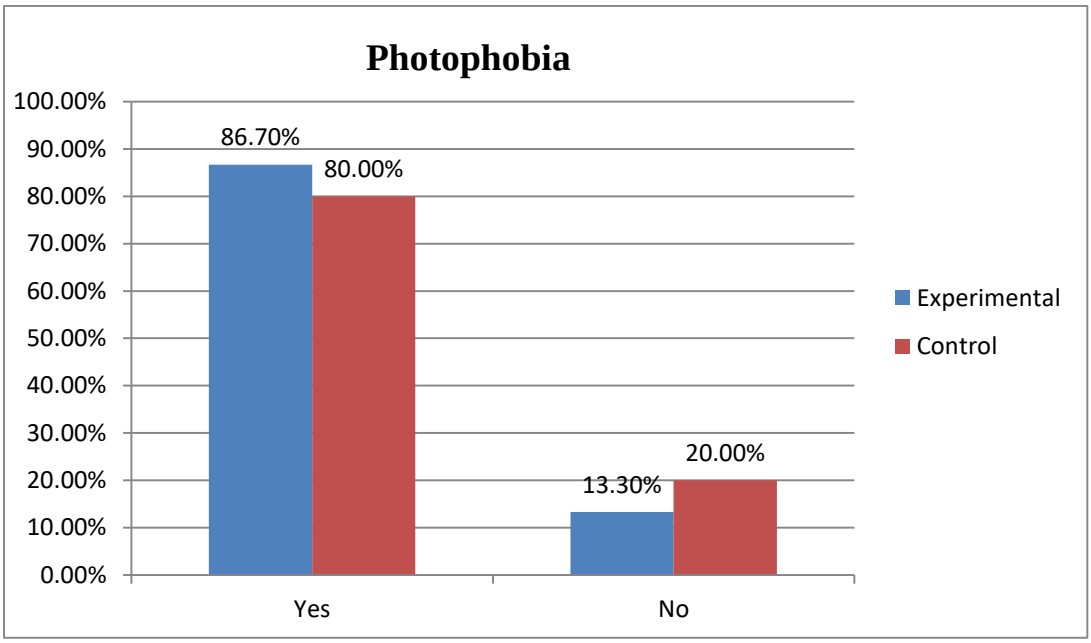


Figure : 9. Percentage distribution of photophobia among Migraine patients

The above Bar diagram reveals that Assessing **Photophobia** majority of the Patients with migraine In experimental group 26(86.7%) had photophobia, 4(13.3%) non of them had photophobia. In control group 24(80.0%) had photophobia, 6 (20.0%) none of them had photophobia.

Section – II

Description of pretest level of acute episodic pain among patients with Migraine

Table-3

Frequency and percentage distribution of pre test level of Pain Score among patients with Migraine

Level of pain score	TEST			
	Experiment		Control	
	f	%	f	%
No pain	0	0.0%	0	0.0%
Mild pain	0	0.0%	0	0.0%
Moderate pain	16	53.3%	19	63.3%
Severe pain	14	46.7%	11	36.7%
TOTAL	30	100%	30	100%

The above table states that in the pre test assessment of majority of the Patients with Migraine in Experimental group 16(53.3%) had moderate level of Pain,14(46.7%)had Severe level of pain, none of them had no pain and Mild pain Score. In Control group 19(63.3%) of the patients had moderate level of pain score and 11(36.7%) of the patients had severe Level of pain, none of them had no Pain and Mild Pain.

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Table 4:

Comparison of pretest pain score between experiment and control group

Group	f	Mean pain score	Std. Deviation	Mean Difference	Student independent t-test
Experiment	30	6.60	0.77	0.20	t=0.80 P=0.43 DF=58 Not significant
Control	30	6.40	1.13		

P>0.05 not significant

The above table **4** shows that in experimental group Pretest level of pain score Mean 6.60, in Control group pretest level of pain score Mean 6.40, so the Mean difference is 0.20, this difference is small and it is not statistically significant. Statistical significance was calculated using student independent t-test-0.80, p-value=0.43.

Table 5

Posttest level of pain score

Level of pain score	TEST			
	Experiment		Control	
	f	%	f	%
No pain	17	56.7%	3	10.0%
Mild pain	13	43.3%	19	63.3%
Moderate pain	0	0.0%	8	26.7%
Severe pain	0	0.0%	0	0.0%
TOTAL	30	100%	30	100%

Fig DF= Degrees of Freedom*** very high significant at P≤0.001

The above table shows that in the post test majority of the Patients with Migraine in Experimental group 17 (56.7%) had No Pain,13(43.3%)had Mild level of pain, none of the patients had Moderate, and Severe pain score.In Control group 19(63.3%) of the patients had mild level of pain score and 8(26.7%) of the patients had Moderate Level of pain, 3(10.0%) of the patients had no Pain ,and none of the patients had severe Pain.

Table 6

Comparison of posttest pain score between experiment and control group

Group	f	Mean pain score	Std. Deviation	Mean Difference	Student independent t-test
Experiment	30	1.13	1.43	2.04	t=6.01 P=1.00 DF=58 NS
Control	30	3.17	1.17		

Significant at P≤0.05 S=significant

The above table shows that in experimental group Posttest level of pain score Mean 1.13, in Control group posttest level of pain score Mean 3.17, so the Mean difference is 2.04, this difference is Large and it is statistically significant. Statistical significance was calculated using student independent t-test=6.01, P=1.00 not significant.

Table 7

COMPARISON OF OVERALL PRE AND POSTTEST PAIN SCORE

		No. of patients	pain score Mean ± SD	Mean Difference	Student's paired t-test
Experiment	Pre-test	30	6.60± 0.77	5.47	**t=22.47 P=0.001*** DF =29 significant**
	Post-test	30	1.13±1.43		
Control	Pre-test	30	6.40± 1.13	3.23	**t=10.71 P=0.001*** DF =29 significant**
	Post-test	30	3.17±1.17		

DF= Degrees of Freedom *** very high significant at P≤0.001

The above table 7 shows that in experimental group Pretest and Posttest level of pain score Mean 6.60 and1.13, so the difference is 5.47. The difference between pretest and posttest score is large and it is statistically significant. The effectiveness of cold pack application along with medication on acute episodic pain of migraine patients shows that effective pain reduction in experimental group obtained t- value in post test is 22.47 at p value ≤0.001 Level of significance.

In Control group pretest and posttest level of pain score Mean 6.40and 3.17, so the Mean difference is 3.23, the difference between pretest and posttest score is large and it is statistically significant. The effectiveness of with medication, without intervention on acute episodic pain of migraine patients in Control group, obtained t- value in posttest is 10.71 at p value ≤0.001 Level of significance.

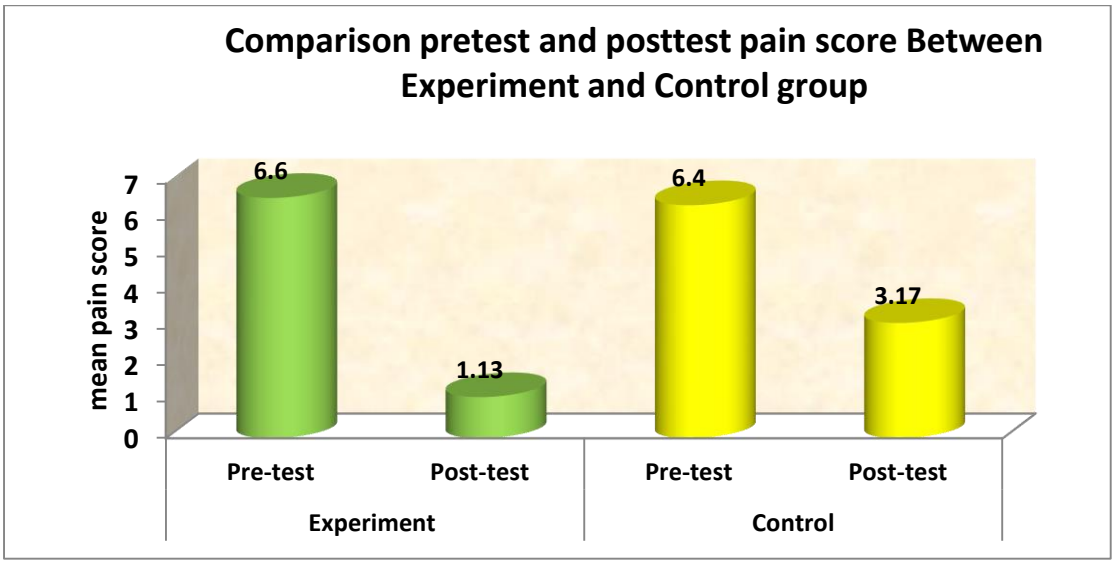

Figure : 10. Comparison of mean value of pretest and posttest level of pain among patients with experimental and control group

The above cylindrical diagram depicts that the Cold pack intervention score between pretest and posttest, in pretest mean is 6.60, and posttest mean is 1.13 in experiment group, where as control group 6.40 is pretest level of mean and 3.17 is posttest level of mean score.

Table 8

Percentage of pain reduction score among experimental & control group

		Max score	*Pain score* Mean ± SD	Mean Difference in pain score with 95% Confidence interval	Percentage of pain reduction score with 95% Confidence interval
Experiment	Pretest	10	6.60± 0.77	5.47(4.97 -5.96)	54.7% (49.7% – 59.6%)
	Posttest	10	1.13±1.43		
Control	Pretest	10	6.40± 1.13	3.23(2.62 -3.85)	32.3% (26.2% – 38.5%)
	Posttest	10	3.17±1.17		

The above table 8 Shows that the effectiveness of cold pack application on acute episodic pain In experimental group had pretest and posttest obtained mean value 54.7% pain reduction and in control group had 32.3% pain reduction with out intervention, so the d ifferences between pretest and posttest score was analyzed using mean difference with 95% confidence interval and proportion with 95% Confidence interval. This 22.4% Reduction of pain score difference shows the **effectiveness** of study. The cold pack intervention is more effective in reduction of pain in experimental group, than the control group.

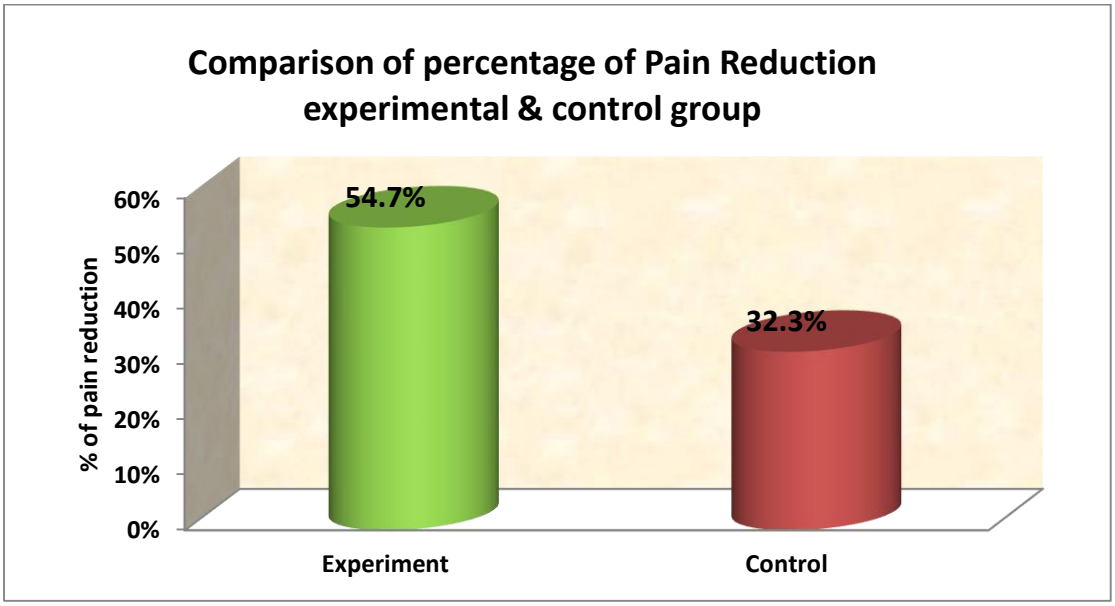

Figure : 11. Percentage distribution of pain reduction on migraine patients after cold application

The above cylindrical diagram depicts that after cold pack application among patients with migraine pain reduction score 54.7% in experiment group, 32.3%in control group The difference between pretest, posttest score is 22.4%. pain reduction score shows the study is effective.

Table 9

Association between pretest level of pain In Experimental group with demographic variables.

Demographic variables		Pretest level of pain				n	Chi square test
		Moderate		Severe			
		f	%	f	%		
Age	21-30 years	5	55.6%	4	44.4%	9	$\chi 2$=2.07 P=0.55 DF=3 NS
	31-40 years	5	45.5%	6	54.5%	11	
	41-50 years	4	50.0%	4	50.0%	8	
	> 50 years	2	100.0%			2	
Gender	Male	2	100.0%			2	$\chi 2$=1.87 P=0.17 DF=1 NS
	Female	14	50.0%	14	50.0%	28	
Religion	Hindu	15	55.6%	12	44.4%	27	$\chi 2$=1.20 P=0.55 DF=2 NS
	Christian	1	50.0%	1	50.0%	2	
	Muslim			1	100.0%	1	
Education	Primary education	6	60.0%	4	40.0%	10	$\chi 2$=6.72 P=0.15 DF=4 NS
	Secondary education	6	54.5%	5	45.5%	11	
	Higher secondary	3	100.0%			3	
	Graduate	1	33.3%	2	66.7%	3	
	No formal education			3	100.0%	3	
Occupation	Company	4	66.7%	2	33.3%	6	$\chi 2$=4.63 P=0.32 DF=4 NS
	Daily wages	2	50.0%	2	50.0%	4	
	Business	3	75.0%	1	25.0%	4	
	Housewife	7	53.8%	6	46.2%	13	
	Unemployed			3	100.0%	3	
Residence	Rural	6	50.0%	6	50.0%	12	$\chi 2$=0.10 P=0.76 DF=1 NS
	Urban	10	55.6%	8	44.4%	18	

The above table shows the association between Pretest level of pain in Experimental group and Demographic variables. None of the variables are significantly associated with demographic variables. It was confirmed using chi square test.

Table 10

Association between pretest level of pain in Experimental group with clinical variables

Clinical variables		pretest level of pain score				n	Chi square test
		Moderate		Severe			
		f	%	f	%		
Dietary triggers	Cheese	9	64.3%	5	35.7%	14	$\chi 2$=4.22 P=0.51 DF=5 NS
	Citrus fruits	0	0.0%	1	100.0%	1	
	Coffee	0	0.0%	1	100.0%	1	
	Missed meal	1	33.3%	2	66.7%	3	
	Ice cream	2	40.0%	3	60.0%	5	
	None	4	66.7%	2	33.3%	6	
Frequency of head ache	1 -2 times	12	57.1%	9	42.9%	21	$\chi 2$=0.40 P=0.52 DF=1 NS
	3 -4 times	4	44.4%	5	55.6%	9	
How long Head ache will Last	4 -10	12	57.1%	9	42.9%	21	$\chi 2$=1.30 P=0.72 DF=3 NS
	11 -17	0	0.0%	1	100.0%	1	
	18 -24	2	50.0%	2	50.0%	4	
	> 24	2	50.0%	2	50.0%	4	
medication used	Yes	16	53.3%	14	46.7%	30	$\chi 2$=0.00 P=1.00 DF=1 NS
	No	0	0%	0	0%	0	
No of work days missed	1 to 2days /3month	4	66.7%	2	33.3%	6	$\chi 2$=1.58 P=0.66 DF=3 NS
	3 to 4days /3month	1	50.0%	1	50.0%	2	
	>4days /3month	1	100.0%	0	0.0%	1	
	None	10	47.6%	11	52.4%	21	
Other triggers	Stressful event	8	53.3%	7	46.7%	15	$\chi 2$=3.61 P=0.82 DF=7 NS
	Exposure to sunlight	2	50.0%	2	50.0%	4	
	Strong odor	2	66.7%	1	33.3%	3	
	Loud noise	1	50.0%	1	50.0%	2	
	Exposure to bright light	0	0.0%	1	100.0%	1	
	Fatigue	0	0.0%	1	100.0%	1	
	Travel	1	100.0%	0	0.0%	1	
	Sleep disturbances	2	66.7%	1	33.3%	3	
Which time peak	Early morning	5	38.5%	8	61.5%	13	

	Afternoon	8	72.7%	3	27.3%	11	$\chi 2$=3.51 P=0.32 DF=3 NS
	Evening	2	66.7%	1	33.3%	3	
	Night	1	33.3%	2	66.7%	3	
Location of H.A	Once side	11	55.0%	9	45.0%	20	$\chi 2$=2.57P=0.27DF=2 NS
	Both side	2	100.0%	0	0.0%	2	
	Back of the head , along with neck	3	37.5%	5	62.5%	8	
Pulsating quality	Yes	16	57.1%	12	42.9%	28	$\chi 2$=2.44 P=0.11 DF=1 NS
	No	0	0.0%	2	100.0%	2	
Fatigue	Yes	15	55.6%	12	44.4%	27	$\chi 2$=0.53 P=0.46 DF=1 NS
	No	1	33.3%	2	66.7%	3	
Photophobia	Yes	13	50.0%	13	50.0%	26	$\chi 2$=0.87 P=0.35 DF=1 NS
	No	3	75.0%	1	25.0%	4	
Phonophobia	Yes	14	56.0%	11	44.0%	25	$\chi 2$=0.42 P=0.51 DF=1 NS
	No	2	40.0%	3	60.0%	5	
Vomiting	Yes	10	55.6%	8	44.4%	18	$\chi 2$=0.09 P=0.76 DF=1 NS
	No	6	50.0%	6	50.0%	12	
Sleep	Sleep disturbance	13	59.1%	9	40.9%	22	$\chi 2$=1.10 P=0.29 DF=1 NS
	Normal sleep	3	37.5%	5	62.5%	8	
Investigations	Yes	14	60.9%	9	39.1%	23	$\chi 2$=2.24 P=0.13 DF=1 NS
	No	2	28.6%	5	71.4%	7	

The above table shows the association between Pretest level of pain score in Experimental group and Clinical Variables. None of the variables are significantly associated with Clinical variables. It was confirmed using chi square test.

Table 11

Association between posttest level of pain in Experimental with Demographic variables

Demographic variables		Posttest level of pain				n	Chi square test
		No pain		Mild			
		f	%	f	%		
Age	21-30 years	8	88.9%	1	11.1%	9	**$\chi 2$=9.91 P=0.02* DF=3 S**
	31-40 years	7	63.6%	4	36.4%	11	
	41-50 years	2	25.0%	6	75.0%	8	
	> 50 years	0	0.0%	2	100.0%	2	
Gender	Male	1	50.0%	1	50.0%	2	$\chi 2$=0.04 P=0.84
	Female	16	57.1%	12	42.9%	28	DF=1 NS
Religion	Hindu	15	55.6%	12	44.4%	27	$\chi 2$=2.85 P=0.24
	Christian	2	100.0%	0	0.0%	2	DF=2 NS
	Muslim	0	0.0%	1	100.0%	1	
Education	Primary education	6	60.0%	4	40.0%	10	$\chi 2$=1.72 P=0.79 DF=4 NS
	Secondary education	7	63.6%	4	36.4%	11	
	Higher secondary	2	66.7%	1	33.3%	3	
	Graduate	1	33.3%	2	66.7%	3	
	No formal education	1	33.3%	2	66.7%	3	
Occupation	Company	2	33.3%	4	66.7%	6	$\chi 2$=5.25 P=0.26
	Daily wages	2	50.0%	2	50.0%	4	DF=4 NS
	Business	4	100.0%	0	0.0%	4	
	Housewife	8	61.5%	5	38.5%	13	
	Unemployed	1	33.3%	2	66.7%	3	
Residence	Rural	6	50.0%	6	50.0%	12	$\chi 2$=0.36 P=0.54
	Urban	11	61.1%	7	38.9%	18	DF=1 NS

The above table shows the association between Posttest level of pain in Experimental group with Demographic Variables. Age 21-30 years 88.9% had significant association of more pain reduction than others, chi square 9.91 p-value 0,02.

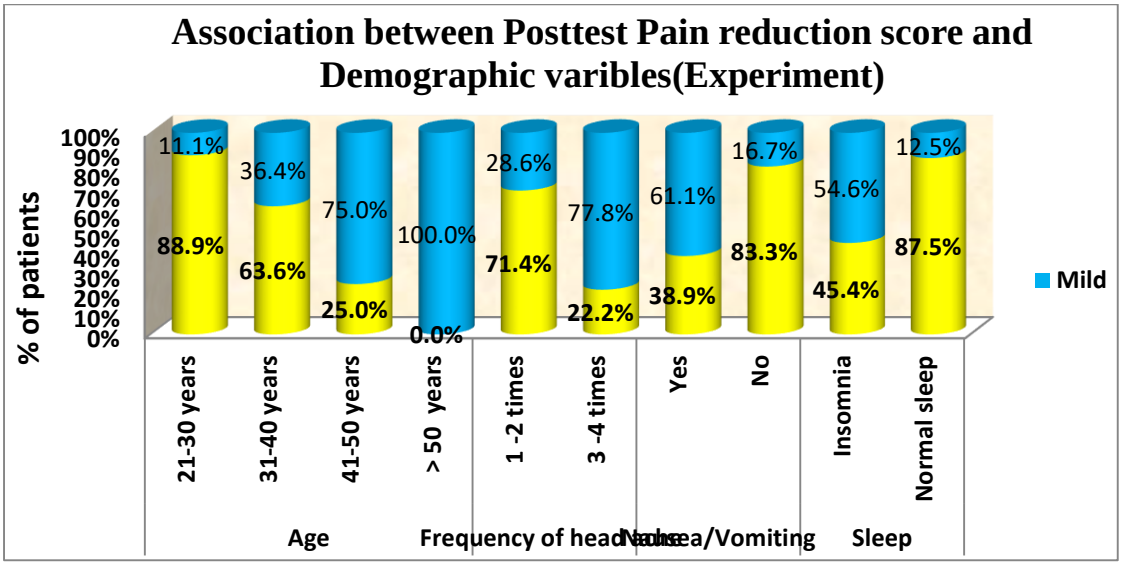

Figure: 12. Percentage distribution of association between the post test level of pain and demographic variables in experiment group

The above Clinderical diagram depicts that association of post test level of pain in experimental group 88.9% had between 21-30years pain reduction than others. Chi square value=9.91, p-value=0.02 statistically significant. Frequency of head ache Patients 1-2 times in a week is 71.4% in experimental group chi square value=6.21, p-value=0.01, Vomiting 83.3% chi square value 5.79, p-value=0.02,in ,Normal sleep pattern87.5% had pain reduction chi square value=4.22, p-value =0.04.these variables are associated with posttest level of pain.

Table 12

Association between posttest level of pain In Experiment with clinical variables

Clinical variables		posttest level of pain score				n	Chi square test
		No pain		Mild			
		f	%	f	%		
Dietary triggers	Cheese	9	64.3%	5	35.7%	14	χ^2=7.54 P=0.18 DF=5 NS
	Citrus fruits			1	100.0%	1	
	Coffee			1	100.0%	1	
	Missed meal	2	66.7%	1	33.3%	3	
	Ice cream	1	20.0%	4	80.0%	5	
	None	5	83.3%	1	16.7%	6	
Frequency of head ache (in times/week)	1 -2 times	15	71.4%	6	28.6%	21	**χ^2=6.21 P=0.01** DF=1 S**
	3 -4 times	2	22.2%	7	77.8%	9	
How long the head ache will usually last(in hours)	4 -10	11	52.4%	10	47.6%	21	χ^2=4.59 P=0.20 DF=3 NS
	11 -17			1	100.0%	1	
	18 -24	4	100.0 %			4	
	> 24	2	50.0%	2	50.0%	4	
Medication used	Yes	16	53.3%	14	46.7%	30	χ^2=0.00P=1.00 DF=1 NS
	No	0	0%	0	0%		
No of work days missed	1 to 2days /3month	4	66.7%	2	33.3%	6	χ^2=3.62 P=0.30 DF=3 NS
	3 to 4days /3month			2	100.0%	2	
	>4days /3month	1	100.0 %			1	
	None	12	57.1%	9	42.9%	21	
Other triggers	Stressful event	7	46.7%	8	53.3%	15	χ^2=5.97 P=0.54 DF=7 NS
	Exposure to sunlight	2	50.0%	2	50.0%	4	
	Strong odor	2	66.7%	1	33.3%	3	
	Loud noise	1	50.0%	1	50.0%	2	
	Exposure to bright light			1	100.0%	1	

	Fatigue	1	100.0 %			1	
	Travel	1	100.0 %			1	
	Sleep disturbances	3	100.0 %			3	
Which time peak	Early morning	5	38.5%	8	61.5%	13	χ^2=4.38 P=0.22 DF=3 NS
	Afternoon	7	63.6%	4	36.4%	11	
	Evening	3	100.0 %			3	
	Night	2	66.7%	1	33.3%	3	
Location of H.A	Once side	13	65.0%	7	35.0%	20	χ^2=5.36P=0.07DF =2 NS
	Both side	2	100.0 %			2	
	Back of the head , along with neck	2	25.0%	6	75.0%	8	
Pulsating quality	Yes	15	53.6%	13	46.4%	28	χ^2=1.63 P=0.20 DF=1 NS
	No	2	100.0 %			2	
Fatigue	Yes	17	63.0%	10	37.0%	27	χ^2=4.35 P=0.03 DF=1 NS
	No			3	100.0%	3	
Photophobia	Yes	15	57.7%	11	42.3%	26	χ^2=0.08 P=0.77 DF=1 NS
	No	2	50.0%	2	50.0%	4	
Phonophobia	Yes	16	64.0%	9	36.0%	25	χ^2=3.28 P=0.07 DF=1 NS
Vomiting	Yes	7	38.9 %	11	61.1 %	18	**χ^2=5.79 P=0.02* DF=1 S**
	No	10	83.3 %	2	16.7 %	12	
Sleep	Sleep disturbance	10	45.4 %	12	54.6 %	22	**χ^2=4.22 P=0.04* DF=1 S**
	Normal sleep	7	87.5 %	1	12.5 %	8	
Investigations	Yes	14	60.9 %	9	39.1 %	23	χ^2=0.70 P=0.40 DF=1 NS
	No	3	42.9 %	4	57.1 %	7	

The above table shows the association between Posttest level of pain in experimental group with Clinical Variables. Frequency of head ache Patients 1-2 times in a week is 71.4% in experimental group chi square value=6.21, p-value=0.01, ,Vomiting 83.3% chi square value 5.79,p-value=0.02,in ,Normal sleep pattern87.5% had pain reduction chi square value=4.22, p-value =0.04.these variables are associated with posttest level of pain.

Table 13

Association between pretest level of pain in Control group with demographic variables

Demographic variables		Pretest level of pain score				n	Chi square test
		Moderate		Severe			
		f	%	f	%		
Age	21-30 years	9	64.3%	5	35.7%	14	χ^2=0.99 P=0.80 DF=3 NS
	31-40 years	5	55.6%	4	44.4%	9	
	41-50 years	4	80.0%	1	20.0%	5	
	> 50 years	1	50.0%	1	50.0%	2	
Gender	Male	3	75.0%	1	25.0%	4	χ^2=0.27 P=0.60 DF=1 NS
	Female	16	61.5%	10	38.5%	26	
Religion	Hindu	18	64.3%	10	35.7%	28	χ^2=2.31 P=0.31 DF=2 NS
	Christian			1	100.0%	1	
	Muslim	1	100.0%			1	
Education	Primary education	3	37.5%	5	62.5%	8	χ^2=3.21 P=0.52 DF=4 NS
	Secondary education	5	71.4%	2	28.6%	7	
	Higher secondary	6	75.0%	2	25.0%	8	
	Graduate	2	66.7%	1	33.3%	3	
	No formal education	3	75.0%	1	25.0%	4	
Occupation	Company	4	80.0%	1	20.0%	5	χ^2=8.90 P=0.06 DF=4 NS
	Daily wages	4	50.0%	4	50.0%	8	
	Business			3	100.0%	3	
	Housewife	7	70.0%	3	30.0%	10	
	Unemployed	4	100.0%			4	
Residence	Rural	9	52.9%	8	47.1%	17	χ^2=1.82 P=0.17 DF=1 NS
	Urban	10	76.9%	3	23.1%	13	

The above table shows the association between Pretest level of pain in Control group with Demographic Variables. None of the Patients are significantly associated with demographic variables. It was confirmed by using chi square test.

Table 14

Association between pretest level of pain in control group with clinical variables.

Clinical variables		Pretest level of pain score				n	Chi square test
		Moderate		Severe			
		f	%	f	%		
Dietary triggers	Cheese	5	41.7%	7	58.3%	12	$\chi 2$=7.75 P=0.17 DF=5
	Citrus fruits	1	100.0%			1	NS
	Coffee	1	100.0%			1	
	Missed meal	3	75.0%	1	25.0%	4	
	Ice cream	3	50.0%	3	50.0%	6	
	None	6	100.0%			6	
Frequency of head ache	1 -2 times	17	70.8%	7	29.2%	24	$\chi 2$=2.90 P=0.08 DF=1
	3 -4 times	2	33.3%	4	66.7%	6	NS
How long H a will Last	4 -10	14	82.4%	3	17.6%	17	$\chi 2$=6.44 P=0.09 DF=3
	11 -17	2	33.3%	4	66.7%	6	NS
	18 -24	1	33.3%	2	66.7%	3	
	> 24	2	50.0%	2	50.0%	4	
Any medication used	Yes	19	63.3%	11	36.7%	30	$\chi 2$=0.00 P=1.00 DF=1 NS
	No	0	.0%		0%	0	
No of work days missd	1 to 2days /3month	5	71.4%	2	28.6%	7	$\chi 2$=4.25 P=0.23 DF=3 NS
	3 to 4days /3month	1	100.0%			1	
	>4days /3month			2	100.0%	2	
	None	13	65.0%	7	35.0%	20	
Other triggers	Stressful event	11	84.6%	2	15.4%	13	$\chi 2$=9.79 P=0.29 DF=6 NS
	Exposure to sunlight	1	50.0%	1	50.0%	2	
	Strong odor			1	100.0%	1	
	Loud noise	1	25.0%	3	75.0%	4	
	Exposure to bright light			1	100.0%	1	
	Fatigue	1	100.0%			1	
	Travel	2	50.0%	2	50.0%	4	
	Sleep disturbances	3	75.0%	1	25.0%	4	

Which time peak	Early morning	4	44.4%	5	55.6%	9	$\chi 2$=2.42 P=0.48 DF=3 NS
	Afternoon	8	72.7%	3	27.3%	11	
	Evening	6	66.7%	3	33.3%	9	
	Night	1	100.0%			1	
Location of Head ache	Once side	16	69.6%	7	30.4%	23	$\chi 2$=1.72 P=0.42 DF=2 NS
	Both side	1	50.0%	1	50.0%	2	
	Back of the head , along with neck	2	40.0%	3	60.0%	5	
Pulsating quality	Yes	15	60.0%	10	40.0%	25	$\chi 2$=0.71 P=0.39 DF=1 NS
	No	4	80.0%	1	20.0%	5	
Fatigue	Yes	17	63.0%	10	37.0%	27	$\chi 2$=0.02 P=0.90
	No	2	66.7%	1	33.3%	3	DF=1 NS
Photophobia	Yes	13	54.2%	11	45.8%	24	$\chi 2$=2.59 P=0.10
	No	6	100.0%			6	DF=1 NS
Phonophobia	Yes	16	61.5%	10	38.5%	26	$\chi 2$=0.27 P=0.60
	No	3	75.0%	1	25.0%	4	DF=1 NS
Vomiting	Yes	12	75.0%	4	25.0%	16	$\chi 2$=2.01P=0.16
	No	7	50.0%	7	50.0%	14	DF=1 NS
Sleep	Sleep disturbance	16	64.0%	9	36.0%	25	$\chi 2$=0.03 P=0.88 DF=1 NS
	Normal sleep	3	60.0%	2	40.0%	5	
Investigations	Yes	17	60.7%	11	39.3%	28	$\chi 2$=1.24 P=0.26
	No	2	100.0%			2	DF=1 NS

The above table shows the association between Pretest level of pain in Control group with clinical variables. None of the Patients are significantly associated with demographic variables. It was confirmed using chi square test.

Table 15

Association between posttest level of pain score and demographic variables

(control)

Demographic variables		Posttest level of pain score						n	Chi square test
		No pain		Mild		Moderate			
		f	%	f	%	f	%		
Age	21-30 years	3	21.4%	9	64.3%	3	21.4%	14	**$\chi 2$=17.70P=0.05* DF=6 S**
	31-40 years	0	0.0%	5	62.5%	3	37.5%	9	
	41-50 years	0	0.0%	3	60.0%	2	40.0%	5	
	> 50 years	0	0.0%	2	100.0%	0	0.0%	2	
Gender	Male	0	0.0%	4	100.0%	0	0.0%	4	$\chi 2$=2.67 P=0.26 DF=2 NS
	Female	3	11.5%	15	57.7%	8	30.8%	26	
Religion	Hindu	3	10.7%	19	67.9%	6	21.4%	28	$\chi 2$=5.89 P=0.21 DF=4 NS
	Christian	0	0.0%	0	0.0%	1	100.0%	1	
	Muslim	0	0.0%	0	0.0%	1	100.0%	1	
Education	Primary education	0	0.0%	4	50.0%	4	50.0%	8	$\chi 2$=11.42 P=0.18 DF=8 NS
	Secondary education	2	28.6%	4	57.1%	1	14.3%	7	
	Higher secondary	0	0.0%	5	62.5%	3	37.5%	8	
	Graduate	1	33.3%	2	66.7%	0	0.0%	3	
	No formal education	0	0.0%	4	100.0%	0	0.0%	4	
Occupation	Company	0	0.0%	3	60.0%	2	40.0%	5	$\chi 2$=4.32 P=0.82 DF=8 NS
	Daily wages	1	12.5%	6	75.0%	1	12.5%	8	
	Business	1	33.3%	1	33.3%	1	33.3%	3	
	Housewife	1	10.0%	6	60.0%	3	30.0%	10	
	Unemployed	0	0.0%	3	75.0%	1	25.0%	4	
Residence	Rural	3	17.6%	10	58.8%	4	23.5%	17	$\chi 2$=2.56 P=0.28 DF=2 NS
	Urban	0	0.0%	9	69.2%	4	30.8%	13	

The above table shows the association between Posttest level of pain in Control group with Demographic Variables. Age 21-30 years 64.3% had significant association of pain reduction than others, Chi square =17.70, p-value=0.03

Table 16

Association between posttest level of pain score and Clinical variables (control)

		Posttest level of pain score						n	Chi square test
		No pain		Mild		Moderate			
		f	%	f	%	f	%		
Dietary triggers	Cheese	2	16.7%	6	50.0%	4	33.3%	12	$\chi 2$=5.78 P=0.83 DF=10 NS
	Citrus fruits	0	0.0%	1	100.0%	0	0.0%	1	
	Coffee	0	0.0%	1	100.0%	0	0.0%	1	
	Missed meal	0	0.0%	4	100.0%	0	0.0%	4	
	Ice cream	1	16.7%	3	50.0%	2	33.3%	6	
	None	0	0.0%	4	66.7%	2	33.3%	6	
Frequency of head ache	1 -2 times	3	12.5%	17	70.8%	4	16.7%	24	**$\chi 2$=6.32 P=0.04* DF=2 S**
	3 -4 times	0	0.0%	2	33.3%	4	66.7%	6	
How long the head ache will usually last(in hours)	4 -10	1	5.9%	12	70.6%	4	23.5%	17	$\chi 2$=10.83 P=0.11 DF=6 NS
	11 -17	1	16.7%	2	33.3%	3	50.0%	6	
	18 -24	1	33.3%	2	66.7%	0	0.0%	3	
	> 24	0	0.0%	3	75.0%	1	25.0%	4	
Any medication used	Yes	3	10%	19	63.3%	8	26.7%	30	$\chi 2$=0.00 P=1.00 DF=1 NS
	No	0	0%	0	0%	0	0%	0	
No of work days missed	1 to 2days /3month	0	0.0%	5	71.4%	2	28.6%	7	$\chi 2$=5.26 P=0.51 DF=6 NS
	3 to 4days /3month	0	0.0%	1	100.0%	0	0.0%	1	
	>4days /3month	1	50.0%	1	50.0%	0	0.0%	2	
	None	2	10.0%	12	60.0%	6	30.0%	20	
Other triggers	Stressful event	0	0.0%	7	53.8%	6	46.2%	13	$\chi 2$=15.31 P=0.36DF=14 NS
	Exposure to sunlight	0	0.0%	2	100.0%	0	0.0%	2	
	Strong odor	0	0.0%	1	100.0%	0	0.0%	1	
	Loud noise	1	25.0%	2	50.0%	1	25.0%	4	
	Exposure to bright light	0	0.0%	1	100.0%	0	0.0%	1	
	Fatigue	0	0.0%	1	100.0%	0	0.0%	1	
	Travel	2	50.0%	2	50.0%	0	0.0%	4	
	Sleep disturbances	0	0.0%	3	75.0%	1	25.0%	4	

Which time peak	Early morning	1	11.1%	6	66.7%	2	22.2%	9	$\chi 2$=6.83 P=0.33 DF=6NS
	Afternoon	0	0.0%	9	81.8%	2	18.2%	11	
	Evening	2	22.2%	4	44.4%	3	33.3%	9	
	Night	0	0.0%	0	0.0%	1	100.0%	1	
Location of H.A	Once side	2	8.7%	15	65.2%	6	26.1%	23	$\chi 2$=1.31 P=0.85 DF=4 NS
	Both side	0	0.0%	1	50.0%	1	50.0%	2	
	Back of the head , along with neck	1	20.0%	3	60.0%	1	20.0%	5	
Pulsating quality	Yes	2	8.0%	16	64.0%	7	28.0%	25	$\chi 2$=0.71 P=0.70 DF=2 NS
	No	1	20.0%	3	60.0%	1	20.0%	5	
Fatigue	Yes	3	11.1%	16	59.3%	8	29.6%	27	$\chi 2$=1.93 P=0.38 DF=2 NS
	No	0	0.0%	3	100.0%	0	0.0%	3	
Photophobia	Yes	3	12.5%	14	58.3%	7	29.2%	24	$\chi 2$=1.50P=0.47 DF=2 NS
	No	0	0.0%	5	83.3%	1	16.7%	6	
Phonophobia	Yes	3	11.5%	15	57.7%	8	30.8%	26	$\chi 2$=2.56 P=0.28 DF=2 NS
	No	0	0.0%	4	100.0%	0	0.0%	4	
Vomiting	Yes	0	0.0%	13	81.3%	3	18.7%	16	**$\chi 2$=5.99 P=0.05* DF=2 S**
	No	3	21.4%	6	42.9%	5	35.7%	14	
Sleep	Sleep disturbance	0	0.0%	17	68.0%	8	32.0%	25	**$\chi 2$=17.12 P=0.01** DF=2 S**
	Normal sleep	3	60.0%	2	40.0%	0	0.0%	5	
Investigations	Yes	3	10.7%	17	60.7%	8	28.6%	28	$\chi 2$=1.24 P=0.54 DF=2 NS
	No	0	0.0%	2	100.0%	0	0.0%	2	

The above table 16 shows the association between Posttest level of pain in Control group with clinical variables. Frequency of head ache patients 1-2 times in a week had significant association Chi- square;6.32; p value=0.04 , patients had with vomiting significant association Chi- square 5.99 ; p- value=0.05, and normal sleep Patients had significant association Chi–square 17.12, p value = 0.01 with clinical variables.

DISCUSSION

CHAPTER - V

DISCUSSION

This chapter deals with detailed discussion of the data and results interpreted from the statistical, inferential analysis report. The present study was focused to evaluate the effectiveness of cold pack application on acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital, Madurai. Migraine is a recurrent type of headache in which is distressing and detrimental for the affected one causing serious impact in one's personal life, productivity and job, it is a debilitating disorder characterized by moderate to severe headache which can be seen in all age groups at a rate varying from 40%. Migraineurs report either a significant reduction in their daily activity or a complete inability to function all together, missed work and lost productivity from migraine, create a significant public burden. During headache episodes people usually want to be left alone, being out of any direct light and remain in bed withdrawing from all activities. Migraine impacts patients and their families even between the attacks by limiting the patient participation in normal activities. People often need to modify their plans in fear of recurrent migraine attacks. Cold pack application has create numbing effect of vasoconstriction of peripheral nerves, to reduce the acute episodic pain among migraine patients.

In this study, researcher adopted a Quantitative approach, True experimental pre-test post test only design and 60 samples were selected by Simple random sampling technique. Modified imogene kings theory was adopted. Pre test conducted to assess the symptoms Using international head ache society criteria, pain assessed by numerical rating scale Cold pack application given two times with half an hour interval and post test was conducted with the same tool using pain scale.

Discussion of socio demographic variables

Regarding Age, majority of patients with migraine 11 (36.6%) had between the age 31-40 years in least 2(6.7%) had more than 50 years experimental group, 14 (46.7%) had between the age 21-30 years, in least 2(6.7%) had more than 50 years in control group.

With regard to Gender, majority of patients with migraine 28 (93.3%.) had females and remaining 2 (6.7.%) had males in experimental group, 26(86.7%) were Females and remaining 4(13.3%) had males in Control group.

While comparing Religion majority of the patients with migraine 27(90.0%) belongs to Hindu, and 1 (3.3%) were Muslim in experimental group, 28(93.4%) were Hindu, 1(3.3%) were Christian, and Muslim in control group.

According to Education, majority 11(36.7%) had secondary education and remaining 3(10.0%) had No formal education in experimental group, 8(26.7%) had in primary education and minority 3(10.0%) had graduate educational status in control group.

By seeing Occupation, majority 13 (43.4%) were House wife, 3(10.0%) had unemployed in experimental group, 10(33.3%) were House wife, and least 3(10.0%) were Business in control group.

While discussing residence, majority18 (60.0%) hailed in Urban people, and least 12(40.0%) hailed in rural in experimental group and minority 17 (36.7%) hailed in rural, 13(43.3%) hailed in urban in control group.

Discussion of clinical variables

Based on the Dietary Triggers, Majority 14 (46.7%) were taking cheese and least1(3.3%) had Citrus fruits and coffee in experimental group, 12(40.0%) had cheese, and least1(3.3%) had Citrus fruits and coffee in Control group.

Regarding frequency of head ache majority of the patients 21(70.0%) had 1-2 times attack in week and least 9(30.0%) had 3-4 times in experimental group, where as in control group 24(80.0%) had 1-2 times attack and remaining 6(20.0%) had 3-4 times.

According to the How long Head ache will lost (in hours), majority of the patients 21 (70.0%) had pain 4-10 hours, and least 1(3.4%) had pain 11-17 hours in experimental group and in control group 17(56.7%) had pain 4-10 Hours, 3(10.0%) had18-24 Hours.

Discussing Medication used majority of the patients 30%(100%)had medication and least in experimental group, where as in control group 30(100%) had medication and least(0%) with out medication both control and experimental group.

Based on Number of working days missed majority of the patients 21(70.0%) had none, of them missed and least 6(20.0%) had missed 1-2 days /3 month in experimental group, where as control group 20.0%) none of them missed and least1(3.3%) had 3-4 days/3month missed.

Discussing the other triggers, majority of the patients 15 (50%) had stressful event and least 1(3.3%) had triggered by exposure to bright light, fatigue and due to travel in experimental group, and in control group13(43.3%) had stressful event and least1(3.3%) had exposure to light, fatigue and odour.

Regard to which time pain in peak Majority of the patients 13(43.3%) had early morning, and least 3(10.0%) were had Evening and night in experimental group, and in control group11(36.7%) had afternoon ,and least1(3.3%)had pain in night.

Based on Location of head ache, majority of the patients 20(66.7 %) had pain Once side and least 2(6.7%) had Both side in Experimental group, where as control group 23(76.7%) had Once side, least 2(6.7%) had both side.

Assessed to Pulsating quality majority of the patients 28(93.3%) had pain pulsating quality least 2(6.7%) not a pulsating quality in Experimental group and then control group 25(83.3%) had pulsating quality, 5(16.7%) not a pulsating pain.

Discussing fatigue majority of the patients 27(90.0%) had fatigue, least 3(10.0%) had not fatigue in Experimental group, in control group 27(90.0%) had fatigue, 3(10.0%) not fatigue.

Based on Photophobia majority of the patients 26 (86.7%) had photophobia, 4(13.3%) none of them had photophobia experimental group, 24(80.0%) had photophobia, 6(20.0%) none of them had photophobia in control group.

Regard to Phonophobia majority of the patients 25(83.3%) had phonophobia, and least 5(16.7%) none of them had phonophobia in Experimental group, where as control group 26(86.7%) had phonophobia, least 4(13.3%) none of them had phonophobia.

Assessing on vomiting majority of the patients 18(60.0%) had vomiting, 12(40.0%) had not vomited in Experimental group, 16(53.3%) had vomiting, least 14(46.7%) remaining people not vomited in control group.

Discussing sleep disturbances majority of the patients 22(73.3%) had disturbance and least 8(26.7%) had normal sleep in experimental group,25(83.3%) had disturbance least 5(16.7%) were normal sleep in control group.

Regard to under went radialogical Investigations majority of the patients 23(76.7%) had investigated, least 7(23.3%) not done in Experimental group and in control 28(93.3%) had done, least2(6.7%) not done investigations.

Findings based on its objectives

The first objective of the study was to assess the level of Acute Episodic pain among Patients with Migraine in OPD at Government Rajaji Hospital, Madurai.

In the pre test majority of the patients with migraine 16 (53.3%) had moderate level of Pain, 14 (46.7%) had severe (poor) level of pain in experimental group. where as in control group the pre test majority of the patient with migraine 19 (63.3%) had moderate level of pain, 11(36.7%) had severe level of pain.

The present study findings was supported by a study done by **Kulkarni G, RaoG et al (2010**) to estimate the prevalence and disability burden attributed to migraine in Karnataka. Population based study involving in urban n=1,226 and rural n=1,103 populations subjects selected by random cluster sampling using a Modified Hardship questionnaire. Migraine was diagnosed as per ICHD-II criteria, Disability was assessed by HALT index. Age-standardized 1-year prevalence was 25.2% (95% CI: 23.9-27.4%; 10.6% definite, 14.6% probable migraine). And Point prevalence 2.7%. was greater among females (31.6% vs 18.5%; or=2.03 [95% CI: 1.64-2.50]) and in rural areas (28.9% vs 21.7%; or=1.45 [95% CI: 1.16-1.82]). Prevalence peaked between 35-45 years in both genders. Median frequency was 24 days/year, with a sizeable minority (6.6%) reporting >60 days/year. Headache intensity was severe in 40%. The overall mean total was 3.7 ±6.1 days/3 months, 6.1% of productive days, of which 2.1 ±4.0 days/3 months, people lost at home and 1.4 ±4.1 days/months and were lost in the work place. So the results revealed that Disability was higher among women and in rural areas.

The present study findings was supported by a study done by **Teri Robert (2013)** prevalence of head ache in India was 63.9%,with female preponderance 0f 4:3, migraine was25.2%, higher among females than males 2:1,among those rural area to

urban 1.5, tention type head ache 35.1%, all head ache ≥15 days/ month 3.0%, medication over use Head ache was 1.2%.

The present study findings was supported by a cross sectional study **Kathryn M Rexrode (2009)** conducted in india among 2235 adults to determine the epidemiology and characteristics of primary recurrent head ache in indian adults. The finding revealed that age of first onset of headache was 11.33± 5.32 year with mean duration of head ache episode 4.23±3.77 hrs at a frequency of 4-8 headaches per month on an average.

The second objective was to evaluate the effectiveness of cold pack application on acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital Madurai.

In Experimental group the mean pretest pain score was 6.60with standard deviation of 0.77 and the mean post test pain score was 1.13 with standard deviation of 1.43 The mean difference is 5.47 .Percentage of mean score in the Pre test was 53.3 % and in the Post test was 56.7%.The obtained student Paired "t" test value was 22.47 which was significant at p <0.001 level. In control Group the mean pretest pain score was6.40 with standard deviation 1.13and mean posttest pain score3.17with standard deviation1.17. The mean difference3.23 percentage of mean score in pretest was63.3% and in the posttest was63.3%.Tobtained paired " t" test value was 10.71 which was significant at p< 0.001 level. This revealed that there was a significant difference in the mean Pain scores between the pretest and posttest. Comparison of pretest and posttest cold pack application result also revealed a significant reduction in pain score by chi square test p at 0.001*** level of significant. The difference was due to the intervention, cold pack application. Hence this study proved that the cold pack application was very effective in reducing pain among patients with migraine.

The study findings was supported **by Friedman *et al*.(2011)** conducted a study to efficacy of a non-invasive technique, intra-oral chilling, for acute migraine headache pain when compare with oral sumatriptan or placebo. Fifty participants involved in study, 9% of migraine patients reported that a cold therapy was almost completely effective, 26.5% moderately effective and 29.0% mildly effective. However, As a result, revealed that of cold therapy is used for migraine patients as an alternative or additive modality to reduce the pain level.

Thus the Hypothesis H1: There is a significant difference between pretest and posttest level of acute episodic pain among intervention group patients with migraine, in OPD at Government Rajaji Hospital, Madurai was accepted.

The study supported by a study done dy **John F. Rothrock, M.D.,** Conducted a study at University of California, San Diego (UCSD) Medical Center. A clinical study of I.C.E. DOWN was performed on 25 patients with migraine and 25 patients with muscle tension headaches, or both, were Involved in the study. Only patients with a minimum of 10 headaches within 2 months study subjects used to evaluated recent headache history, headache frequency, duration and intensity, among migraine patients were taking some form of medication for their headache and each agreed to stop their drug treatment for the duration of the study. Each subjects was supplied with the I.C.E.DOWN cold therapy head wrap and asked to use it in the event of a recurrence of a typical headache and was followed for a two-month period and at the end of that time an evaluation was done on each patient. The results 73% of the patients improved beginning the use of I.C.E. DOWN, 83% would prefer using I.C.E. DOWN instead of a drug. 80% would recommend I.C.E. DOWN to their friends or family, 76% stated I.C.E. DOWN reduced pain .and throbbing and 66% stated I.C.E.

DOWN lessened the severity of pain, 53% stated I.C.E. DOWN helped to relieve muscle tension.

Thus the Hypothesis H2: There is a significant difference between the posttest level of acute episodic pain among intervention group, and control group patients with migraine in OPD at Government Rajaji Hospital, Madurai was accepted.

The third objective of the study was to associate the level of acute episodic pain among patients with migraine with their selected socio demographic variables and clinical variables, in OPD at Government Rajaji Hospital, Madurai.

Chi square analysis was done to find out the association between the post test scores of acute episodic pain and selected socio demographic variables and clinical variables. The study revealed a significant association between the level of acute episodic pain and selected socio demographic variables such as age those who had > 21-30 years(x^2 = 9.91 P-0.02)and those who have frequency of head ache 1-2 times in a week ($x^{2=}$6.21 p-0.01), those who had vomiting(x^2= 5.79p-0.02), those who had Sleep disturbances (x^2=4.22p-0.04 the clinical variables such as significant association with pain , among patients with migraine .

It was also supported by the study done by **Adam S Sprouse-Blum, MD,(2013)** study utilizing an adjustable neoprene neck wrap that holds two freezable ice packs and The study was approved by the institutional review boards Frozen or non-frozen (control)participants involved in the study and also Participants were educated about cold therapy is the most common self-care treatment in migraine, and that this study evaluates this method of treatment in a novel location at the neck Wrap

101 participants were met IHS ICHD-2 criteria for migraine and were , 25.5% (n=14) met IHS criteria for migraine with aura, the rest (74.5%) met criteria for migraine without aura the results showed that 85.5% of participants (n=47) were female, Participant ages varied from 19 to 64 with a mean age of 43.1 ± 11.4 years, and the results showed that frequency of migraine attacks less than one per month with a median frequency of 5.5, an interquartile range of 4.63 (25th percentile) and 28.75 (75th percentile).So frozen neck wrap was significantly more effective for decreasing pain score, decrease in vascular permeability and a decrease in local nociceptive stimulation.

Thus the Hypothesis H_3-There is a significant association between the level of acute episodic pain among patients with migraine and their selected socio demographic variables and clinical variables in OPD at Government Rajaji Hospital, Madurai was accepted.

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter narrates the summary of the study and the conclusion drawn. It also describes the implications for different areas like nursing education, nursing administration, nursing practice and nursing research. It provides the recommendations based on the study.

6.1 Summary

The present study was conducted to evaluate the effectiveness of Cold pack application on Acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital, Madurai.

Objectives

1. To assess the level of acute episodic pain among patients with migraine both intervention group, and control group in OPD at Government Rajaji Hospital, Madurai.
2. To evaluate the effectiveness of cold pack application on acute episodic pain among patients with migraine Intervention group in OPD at Government Rajaji Hospital Madurai.
3. To associate the level of acute episodic pain among patients with migraine in OPD at Government Rajaji Hospital, Madurai with their selected socio demographic variables.

The following hypotheses were tested at 0.001 level

H_1 - There is a significant difference between pretest and post test level of acute episodic pain among intervention group patients with migraine in OPD at Government Rajaji Hospital, at Madurai.

H_2 There is a significant difference between pretest and post test level of acute episodic pain among intervention group and control group patients with migraine in OPD at Government Rajaji Hospital, at Madurai

H_3 - There is a significant association between the level of acute episodic pain among patients with migraine with their selected demographic variables.

Assumptions:

Patients with migraine may have experience varying level of pain.

The study was conducted at OPD of Neuro medicine at Government Rajaji Hospital, Madurai. The conceptual framework adopted was Modified Imogene king goal attainement theory. Quantitative approach – True -experimental, pre test post test only design was adopted. The independent variable was cold pack application and the dependent variable was acute episodic Pain. Probability Simple random sampling technique was adopted to select 60 samples by picking up the available samples who fulfill the inclusion criteria during the period of data collection. The accessible population for the study was patients with migrainein OPD of Neuro medicine at Government Rajaji Hospital, Madurai. Intervention carried out is Cold pack application.

The tool used in this study consists of two sections.

Section I

a. Socio demographic variables

b. Clinical Variables

Section II

International Head ache Society criteria- II

Content validity was obtained from five experts in the field of Medicine and Medical surgical nursing. Pilot study was conducted to find out the feasibility of the study and it did not show any major flaw in the design of the study. On the 1st day, After data collection with, Interternational head ache society criteria- 2 the level of acute episodic pain was assessed and followed by Cold pack application two times a day with half an hour Interval morning and post test was taken. Data was collected for six weeks from 20.3.17 to 30.4.17 and based on the objectives and hypothesis, data were analyzed using descriptive and inferential statistics.

6.2 Major findings of the study

Regarding **Age**, majority of patients with migraine 11(36.6%), between 31-40 years, in Experimental group, In Control group 14(46.7%%) between 21-30 years.

With regard to **Gender,** majority of patients with migraine 28(93.3%) were Females in experimental group, and in Control group 26(86.7%) were females.

While comparing **Religion** majority of the patients with migraine 27(90.0%) belongs Hindu in experimental group and in Control group 28(93.4%) belongs to hindu.

While comparing **Education**, majority of the patients with migraine 11(36.7%) in experimental group had Secondary education, and in control group 8(26.7%) had primary education.

According to **Occupation**, majority of patients with migraine 13(43.4%) were in House wife in experimental group, in Control group 10(33%.) were House wife.

By seeing **Residence** majority of patients with migraine 18 (60.0%) were Urban in experimental group, in Control group.17 (56.7%) were rural.

Assessing **Dietary triggers**, Majority of patients with migraine In experimental group 14(46.7%) were taking Cheese, 6(20.0%) had None of dietary trigger, 5(16.7%) had Ice Cream, 3(10.0%) had missed meal, and remaining 1(3.3%) had Citrus fruits, and coffee. In Control group 12(40.0%) had Cheese, 6(20.0%) had Ice Cream, and none of dietary trigger, 4(13.4%) were missed meal, 1(3.3%) had Citrus fruits and coffee.

Observing **Frequency of Head ache,** majority of the Patients with Migraine In Experimental group 21(70.0%) had 1- 2 times attack per week, 24(80.0%) were 1-2 times per week in control group. In minor 24(30.0%) had 3- 4 times attack per week, 6(20.0%) were 3-4 times per week in control group.

According to the **How long Head Ache will Lost(in hours),** majority of the Patients with migraine In experimental group 21(70.0%) had pain 4-10 Hours, 4(13.3%) had pain 18-24 Hours, and >24 Hours and remaining 1(3.4%) had 11-17 Hours. In Control group 17(56.7%) had pain 4-10 Hours, 6(20.0%) had 11-17 Hours, and remaining 4(13.3%) had >24 Hours, 3(10.0%) had 18-24 Hours.

While assessing on **Number of working days Missed**, majority of the Patients with migraine In experimental group 21(70.0%) None of them absent, 6(20.0%) had 1-2 days missed/3 month, 2(6.7%) had 3-4 days missed/3 month,

1(3.3%) had >4 days missed/3 month. In Control group 20(66.7%) had None of them absent, 7(23.3%) had1-2 days missed/3 month, 2(6.7%) had >4 days missed/3 month and remaining 1(3.3%) had 3-4 days missed/3 month.

Discussing the **other triggers,** majority of the Patients with Migraine In experimental group 15(50.0%) had Stressful event, 4(13.3%) had Exposure to sunlight, 3(10.0%) had Strong Odour, and Sleep disturbances, 2(6.7%) had Loud noice, 1(3.3%) had exposure to Bright light, Fatigue, and Travel. In Control group 13(43.3.%) had Stressful event , 4(13.3.%) had Loud noise ,Sleep disturbances, and Travel, 2(6.7%) had Exposure to sun light,1(3.3%) had exposure to Bright light, Strong Odour and Fatigue.

Based on **Which time pain in Peak** majority of the Patients with Migraine In experimental group 13(43.3%) had pain in early morning, 11(36.7%) had pain in after noon, 3(10.0%) had pain in evening, and night. In control group 11(36.7%) had pain in afternoon, 9(30.0%) had pain in early morning, and evening, 1(3.3%) had pain in Night.

Discussing the **Location of Head ache** majority of the Patients with Migraine In experimental group 20(66.7%) had pain One side, 8(26.6%) had pain back of the head along with neck, 2(6.7%) had both side. In Control group 23(76.7%) had pain in One side, 5(16.6%) had pain in Back of the head along with neck, 2(6.7%) had pain in both side Assesssing to **Pulsating quality pain** majority of the Patients with migraine In experimental group 28(93.3%) had pulsating pain Remaining 2(6.7%) none of them had pulsating pain. In Control group 25(83.3%) had pulsating pain, remaining 5(16.7%) none of them had pulsating pain.

Based on **Fatigue** majority of the Patients with migraine In experimental group 27(90.0%) had fatigue 3(10.0%) none of them had fatigue both experimental and control group. In control group 27(90.0%) had fatigue.

Assessing on **Photophobia** majority of the Patients with migraine In experimental group 26(86.7%) had photophobia, 4(13.3%) none of them had photophobia. In control group 24(80.0%) had photophobia, 6 (20.0%) none of them had photophobia.

Collecting data on **Phono phobia** majority of the Patients with migraine In experimental group 25(83.3%) had phonophobia, 5(16.7%) none of them had phonophobia. In control group 26(86.7%) had phonophobia 4(13. 3%) none of them had phonophobia

While assessing the **vomiting** majority of the Patients with Migraine In Experimental group 18(60.0%) had vomiting, 12(40.0%) none of them had vomiting. In control group 16((53.3%) had vomiting,14(46.7%) none of them had vomiting.

Discussing to **Sleep** disturbance majority of the Patients with migraine In experimental group 22(73.3%) had sleep disturbance, 8(26.7%)had normal sleep. In control group 25((83.3%) had sleep disturbance, 5(16.7%) had normal Sleep.

Based on **radiological investigations** majority of the Patients with Migraine In Experimental group 23(76.7%) were investigated, 7(23.3%) none of them had investigated. In control group 28((93.3%) were investigated, 2(6.7%.) none of them had investigated.

In experimental group the majority of patients with migraine pretest level of pain (53.3%) were moderate pain, (46.7%)were Severe pain, in posttest (56.7%) had no pain, 43.3% were mild pain, No one had severe level of pain, moderate level of pain. In Control group during pretest level of pain (63.3%) had moderate pain,

(36.7%) had Severe pain, in posttest (10.0%) had no pain, 63.3% were mild pain, 26.7% had moderate level of pain, No one had severe level of pain.

The pre test Mean pain score in experimental group was 6.60 with the Standard Deviation 0.77, but in the post test Mean pain score was 1.13 with the Standard Deviation 1.43. In Control group pretest and posttest level of pain score Mean 6.40and 3.17, so the Mean difference is 3.23, The difference between pretest and posttest score is large and it is statistically significant.

In experimental group had 54.7% pain reduction, where as in control group had 32.3% pain reduction after with out intervention. Differences between pretest and posttest score was analyzed using mean difference with 95% confidence interval The student paired 't' test value was 22.47 which was very high significant at $P< 0.001$ level. The effectiveness of cold pack application on acute episodic pain, Control group, obtained t- value in posttest is 10.71 at p value $\leq 0.001^{***}$ Level of significance. This 22.4% Reduction difference score shows the **effectiveness** of study.

A significant association of post test level of pain in experimental group 88.9% between 21-30 years, had pain reduction than others. Chi square value=9.91, p-value=0.02 statistically significant. Frequency of head ache 1-2 times in a week 71.4% in experimental group chi square value=6.21, p-value=0.01,those who had vomiting 83.3% chi square value 5.79,p-value=0.02 in, Normal sleep pattern patients 87.5% had pain reduction chi square value=4.22, p-value =0.04. this variables highly significant association.

6.3. Conclusion

The statistical evidence proved that the cold pack application provided by the researcher was very effective in reducing acute episodic pain level among the patients with Migraine. Hence the researcher concluded that the Cold pack application can be provided among patients with Migraine experimental group had significant reduction of pain than control group.

6.4 Implications

The investigator had drawn several implications from this study for various areas such as nursing practice, nursing education, nursing administration and nursing research.

6.4.1 Implications for nursing practice

- Nurses should take responsible for the Pain assessment of the patients with migraine to provide cold pack application intervention can be followed as it is effective in reducing pain level, in out patient department of Neuro medicine.
- patients with migraine pain assessment should be considered as a part of the nurses important assessment to identify health condition of the patient
- One of the non pharmacological intervention to reduce the pain level with in short period more over it reduces cost of treatment and side effect of treatments like drug induced headache.

6.4.2 Implications for nursing education

Nurse educator educate needs to understand health problem that is essential to reduce the level of pain among migraine patients.

Nursing curriculum to be strengthened for improving nursing practice in various setting Effective care is important for the patients with migraine It prevents the further attack of migraine.

The frequency of cold pack intervention will provide better results of the patient's condition.

The study will enable the students to practice of cold pack intervention for migraine for reduce the pain level.

6.4.3 Implications for Nursing Administration

- Nursing administration play a vital role in supervision and management of nursing services Administrator should pay special attention to new as well as migraine patient to educate and evaluate their cold pack application in the benefited units.
- Administrator can encourage the nurses to assess the level of pain by using pain rating score
- All the patients and make it as one of the pain assessment procedure.
- Articles and materials needed for providing cold pack intervention must be made available by the Administrative department.
- Nursing Administrator can formulate protocols to incorporate the other non pharmacological managements
- In service education programme can be conducted to disseminate the research

6.4.4 Implications for nursing research

- This study can be a baseline for future studies to build upon and motivate
- A study can be done with large samples and also for long duration.

- A study can be done with other intervention measurers and effectiveness can be analyzed in the acute episodic pain.
- Research is also needed to determine the impact of migraine on patient's outcome.

6.5 Recommendations:

- A similar study can be replicated with larger sample for better generalization
- A study can be conducted using other relaxation techniques like yoga, biofeedback ,neck massage ,muscle relaxation
- A study can be conducted to assess the knowledge, attitude and practice of
- nursing staff regarding pain management.
- The effectiveness of coldpack intervention can be tested for other disease conditions, injury.

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APPENDICES

APPENDIX-I

From

K.Nagajothi,
II Year. M.Sc. (N),
College of Nursing,
Madurai Medical College,
Madurai–20 .

To

The Professor & Head of the Department
Department of Neuro Medicine
Govt. Rajaji Hospital
Madurai–20

Respected Madam,

Sub: CON, MMC. Madurai- II year M.Sc. (N)Medical Surgical Nursing specialty Student - permission for conducting study in NEUROOPD in Govt. Rajaji Hospital, Madurai–20, requesting, reg.

This is for your kind perusal that, I, K.Nagajothi II year M.Sc. (N) student, College of Nursing, Madurai Medical College, Madurai. In fulfilment of M.Sc. (N) course have a plan to conduct a study on "A study toevaluate the effectiveness of cold pack application on acute episodic pain among patients with migraine in OPD at government Rajaji hospital at , Madurai". I assure you that I will not interfere with the routine activities of the OPD.

Kindly consider my request and permit me to conduct the study

THANKING YOU

MADURAI -20

10.02.2017

Yours Faithfully

K.Nagajothi

(K.Nagajothi)

As approved by Ethical Committee already -
- Permitted -
13/2/17

APPENDIX-II

MADURAI MEDICAL COLLEGE
MADURAI, TAMILNADU, INDIA -625 020
(Affiliated to The Tamilnadu Dr.MGR Medical University, Chennai, Tamil Nadu)

ETHICS COMMITTEE CERTIFICATE

Name of the Candidate	:	K.Nagajothi
Course	:	M.Sc., Nursing (Medical and Surgical Nursing)
Period of Study	:	2015 - 2017
College	:	MADURAI MEDICAL COLLEGE
Research Topic	:	A study to evaluate the effectiveness of Cold pack application on acute episodic pain among patients with migraine in OPD at Govt. Rajaji Hospital, Madurai.
Ethical Committee as on	:	08.02.2017

The Ethics Committee, Madurai Medical College has decided to inform that your Research proposal is accepted.

Member Secretary Chairman Dean / Convenor

DEAN
Madurai Medical College
Madurai-20

Prof Dr V Nagaraajan
M.D., MNAMS, D.M., Dsc.,(Neuro), Dsc (Hon)
CHAIRMAN
IEC - Madurai Medical College
Madurai

APPENDIX-III

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B-International head ache society diagnostic criteria assessment measured by numerical scale

Prepared for data collection by Mrs.K.Nagajothi,II year M.Sc(N) student, college of Nursing, Madurai Medical college,Madurai,who has undertaken the study field on thesis entitled "**A STUDY TOEVALUATE THE EFFECTIVENESS OFCOLD PACK APPLICATION ON ACUTE EPISODIC PAIN AMONG PATIENTS WITH MIGRAINE IN OUTPATIENT DEPARTMENTAT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

Name:

Designation: Principal.

Principal
Velammal College of Nursing
Institution Madurai-625 009

CONTENT VALIDITY CERTIFICATE

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B – International head ache society diagnostic criteria assessment measured by numerical scale

Prepared for data collection by Mrs.K.NagajothiII ear M.Sc(N) student,college of Nursing,Madurai Medical college, Madurai, who has undertaken the study field on thesis entitled **"A STUDY TOEVALUATE THE EFFECTIVENESSs OFCOLD PACK APPLICATION ON ACUTE EPISODIC PAIN AMONG PATIENTS WITH MIGRAINE IN OUTPATIENT DEPARTMENTAT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

Name: ANDAL P

Designation: Professor

Institution: Sacred Heart Nursing College

SACRED HEART NURSING COLLEGE
THASILDAR NAGAR
MADURAI-20.
1 / 535, COLLEGE ROAD

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B-International head ache society diagnostic criteria assessment measured by numerical scale

Prepared for data collection by Mrs.K.Nagajothi,II year M.Sc(N) student, college of Nursing, Madurai Medical college,Madurai,who has undertaken the study field on thesis entitled "**A STUDY TOEVALUATE THE EFFECTIVENESS OFCOLD PACK APPLICATION ON ACUTE EPISODIC PAIN AMONG PATIENTS WITH MIGRAINE IN OUTPATIENT DEPARTMENTAT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

Name: Dr. B. SRITHARAN M.D., (Gen. Med) D.M (Neurology)

Designation: Professor & HOD, Dept. of Neurology

Institution Govt. Rajaji Hospital Madurai Medical College Madurai.

Professor of Neurology
Govt. Rajaji Hospital
Madurai.

CONTENT VALIDITY CERTIFICATE

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A-Demographic data

SECTION B – International head ache society diagnostic criteria assessment measured by numerical scale

Prepared for data collection by Mrs.K.NagajothiII ear M.Sc(N) student,college of Nursing,Madurai Medical college, Madurai, who has undertaken the study field on thesis entitled **"A STUDY TOEVALUATE THE EFFECTIVENESSs OFCOLD PACK APPLICATION ON ACUTE EPISODIC PAIN AMONG PATIENTS WITH MIGRAINE IN OUTPATIENT DEPARTMENTAT GOVERNMENT RAJAJI HOSPITAL MADURAI"** has been validated by me.

SIGNATURE OF THE EXPERT

SACRED HEART NURSING COLLEGE
TVASILDAR NAGAR
MADURAI-20.
1/285, COLLEGE ROAD

Name: SAKTHI BHARATHI.N

Designation: ASSOC. PROFESSOR

Institution: SACRED HEART NURSING COLLEGE, MADURAI

APPENDIX-IV

CONSENT FORM

ஒப்புதல் அறிக்கை

பெயர் தேதி

எனக்கு இந்த ஆய்வைப் பற்றிய முழு விவரம் விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்கு பெறுவதில் உள்ள நன்மைகள் மற்றும் தீமைகள் பற்றி நான் புரிந்துகொண்டேன். நான் இந்த ஆய்வில் தானாகவே முன் வந்து பங்கு பெறுகிறேன். மேலும் எனக்கு இந்த ஆய்வில் இருந்து எந்த நேரமும் விலகிக் கொள்ள முழு அனுமதி வழங்கப்பட்டுள்ளது. என்னுடைய சிகிச்சை ஆவணங்களைப் பார்வையிட்டு அதில் உள்ள விவரங்களை ஆய்வில் பயன்படுதிக் கொள்ள அனுமதி அளிக்கிறேன். என்னுடைய பெயர் மற்றும் அடையளங்கள் ரகசியமாக வைத்துக் கொள்ளப்படும் என்றும் எனக்கு உறுதியளிக்கப்பட்டுள்ளது.

கையொப்பம்

APPENDIX-V

SECTION-A

TOOLS FOR DATA COLLECTION:

DEMOGRAPHIC DATA:

1. Age
    a) 21-30 years
    b) 31-40 years
    c) 41-50 years
    d) > 50 years
2. Gender
    a)Male
    b)Female
3. Religion
    a)Hindu
    b) Christian
    c)Muslim
    d) Others
4. Education
    a) Primary education
    b) Secondary education
    c) Higher secondary
    d) Graduate
    e) No formal education
5. Occupation
    a) Company
    b) Daily wages
    c) Business
    d) Housewife
    e) Unemployee
6. Residence
    a) Rural
    b) Sub-urban
    c) Urban
    d) Tribal area

SECTION B

Clinical variable

1) Dietary triggers of migraine as per your experience

A. Cheese
B. Chocolates
C. citrus fruits
D. junk food
E. Coffee
F. Missed meal
G. Ice cream
H. Pickle
I. None

2) Frequency of head ache (intimes/week)

a) 1to2
b) 3to4
c) >5

3) How long the head ache will usually last (in hours)

a) 4to10
b) 11to17
c) 18to24
d) >24

4) Prescribed medications

a) yes _____
b) No

5) Number of working days missed due to headache

a) 1to2days /3month
b) 3to4days /3month
c) >4days /3month
d) None

6) Other head ache triggers

a) Stressful event
b) Exposure to sunlight
c) Strong odor
d) Loud noise
e) Exposure to bright light
f) Fatigue
g) Travel
h) Sleep disturbances
i) Smoking
j) Alcoholism
k) None

7) Which part of the day migraine is at its peak

a) Early morning
b) Afternoon
c) Evening
d) Night

8) Location of migraine head ache

a) Once side
b) Both side
c) Forehead
d) Back of the head , along with neck

9) Pulsating quality

a) yes
b) No

10) Do you have fatigue due to head ache?

a) yes
b) No

11) Photophobia

a) yes

b) No

12) phonophobia

a) yes

b) No

13) Nausea/ vomiting

a) yes

b)No

14)Sleep quality

a) Sleep disturbance

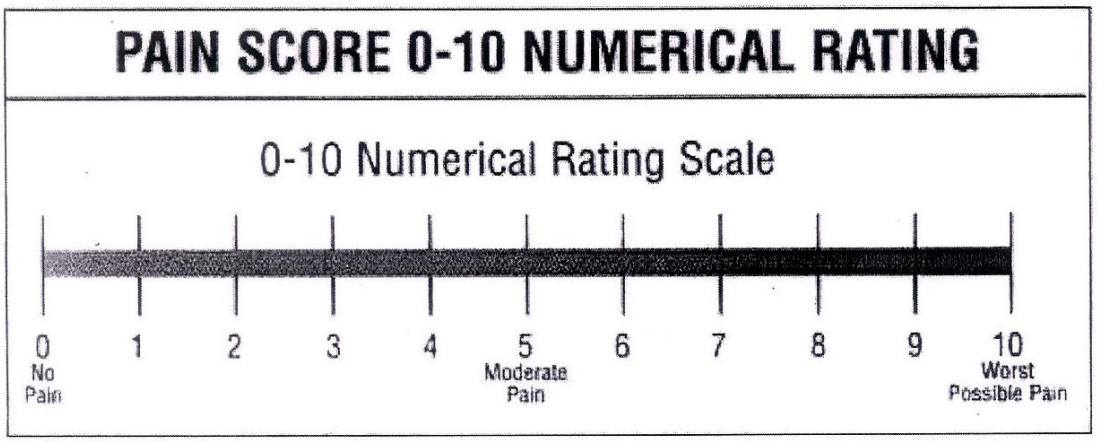
c) Normal sleep

15) Have you underwent any Investigation ?

a) Yes

b) No

SECTION - II



0 - No pain

1 – 3 - Mild pain

4 - 7 - Moderate pain

8 – 10- Severe pain

INTERNATIONAL HEAD ACHE SOCIETY DIAGNOSTIC CRITERIA

Migraine without aura

A. At least five attacks fulfilling criteria B–D

B. Headache attacks lasting 4-72 hours (untreated or unsuccessfully treated) 2,3

C. Headache has at least two of the following four characteristics:

1. Unilateral location
2. Pulsating quality
3. Moderate or severe pain intensity
4. Aggravation by or causing avoidance of routine physical activity (e.g. walking or climbing stairs)

D. During headache at least one of the following:

1. Nausea and/or vomiting
2. Photophobia and phonophobia

Migraine with aura

A. At least two attacks fulfilling criteria B and C

B. One or more of the following fully reversible aura symptoms:

1. Visual
2. Sensory
3. Speech and/or language
4. Motor
5. Brainstem
6. Retinal

C. At least two of the following four characteristics:

1. At least one aura symptom spreads gradually over 5 minutes, and/or two or more symptoms occur in succession
2. Each individual aura symptom lasts 5-60 minutes
3. At least one aura symptom is unilateral
4. The aura is accompanied, or followed within 60 minutes, by headache

APPENDIX –VI

ஆராய்ச்சியாளரின் வடிவமைக்கப்பட்டநேர்காணல் படிவம்

பகுதி -அ

தன்னிலைவிபரக்குறிப்பு

நேர்காணல் படிவம் எண் - 1

1. வயது
   - அ) 21 - 30
   - ஆ) 31 - 40
   - இ) 41 - 50
   - ஈ) 50க்கு மேல

2. பாலினம்
   - அ) ஆண்
   - ஆ) பெண்

3.) மதம்
   - அ) இந்து
   - ஆ) கிறிஸ்தவம்
   - இ) இஸ்லாம்
   - ஈ) மற்றவை

4. கல்வித்தகுதி
   - அ) ஆரம்பக்கல்வி
   - ஆ) உயர்நிலைக்கல்வி
   - இ) மேல்நிலைக்கல்வி
   - ஈ) பட்டப்படிப்பு
   - உ) படிப்பறிவின்மை

5. வேலை
   - அ) நிறுவனம்
   - ஆ) தினக்கூலி
   - இ) சொந்தத்தொழில்
   - ஈ) இல்லத்தரசி
   - உ) வேலையின்மை

6. வாழ்விடம்

அ) கிராமம்

ஆ) நகர்ப்புறம்

இ) நகரம்

ஈ) மலைவாழ்விடம்

மருத்துவமாறி காரணிகள்

1. உங்கள் அனுபவத்தில் உணவுகளால் தூண்டப்படும் தலைவலி

அ) பாலாடைக்கட்டி

ஆ) சாக்லைட்

இ) புளிப்பு பழங்கள்

ஈ) குப்பைஉணவுகள்

உ) காபி

ஊ) காலைஉணவு தவிர்த்தல்

எ) ஐஸ்கிரீம்

ஏ) ஊறுகாய்

ஐ) எதுவுமில்லை

2. வாரத்தில் எத்தனைமுறைதலைவலிவருகிறது

அ) 1 - 2

ஆ) 3 - 4

இ) >5

3. எவ்வளவு நேரத்திற்குதலைவலிநீடிக்கிறது

அ) 4 - 10

ஆ) 10 - 17

இ) 18 - 24

ஈ) >24

4) மருத்துவர் பரிந்துரையின் பேரில் மருந்துகள் எடுத்துக் கொள்கிறீர்களா

அ) ஆம் ----------

ஆ) இல்லை

5) தலைவலியினால் எத்தனைநாள் வேலைக்கு செல்லவில்லை

அ) 1 - 2 / 3 மாதங்கள்

ஆ) 3 -4 / 3 மாதங்கள்

இ) >4 / 3 மாதங்கள்

ஈ) இல்லை / 3 மாதங்கள்

6. தலைவலிஅதிகப்படுத்தும் மற்றகாரணிகள்

அ) மனஅழுத்தம்

ஆ) நேரடியான சூரிய வெளிச்சம்

இ) மிகுதியானநாற்றம்

ஈ) மிகுதியானசத்தம்

உ) மிகுதியான வெளிச்சம்

ஊ) சோர்வு

எ) பிரயாணம்

ஏ) தூக்கமின்மை

ஐ) புகைபிடித்தல்

ஒ) குடிப்பழக்கம்

ஓ) எதுவுமில்லை

7. எந்த நேரத்தில் தலைவலி உச்சத்தில் இருக்கிறது

அ) விடியற்காலை

ஆ) மதியம்

இ) மாலை

ஈ) இரவு

8. தலைவலி தோன்றும் தன்மை

அ) ஒரு புறம்

ஆ) இரு புறம்

இ) முன் நெற்றி

ஈ) தலையின் பின்பகுதி மற்றும் கழுத்துப்பகுதி

9. துடிப்புடன் கூடிய தலைவலி

அ) ஆம்

ஆ) இல்லை

10. தலைவலியினால் சோர்வு ஏற்படைகிறதா

அ) ஆம்

ஆ) இல்லை

11. கண் கூசுதலால் ஏற்படும் அச்சம்

அ) ஆம்

ஆ) இல்லை

12. சத்தத்தால் ஏற்படும் அச்சம்

அ) ஆம்

ஆ) இல்லை

13. குமட்டல் / வாந்தி

அ) ஆம்

ஆ) இல்லை

14. தூக்கத்தின் தன்மை

அ) தூக்கமின்மை

ஆ) சாதாரண தூக்கம்

15 நீங்கள் பரிசோதனை செய்து கொண்டவரா ?

அ) ஆம்

ஆ) இல்லை

APPENDIX-VII

ENGLISH EDITING CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation **"a study to evaluate the effectiveness of cold pack application on acute episodic pain among patients with migraine in outpatient department at Government Rajaji hospital Madurai"** done by Mrs.K.Nagajothi ,M.Sc,Nursing II year student, college of Nursing, Madurai Medical college,Madurai-20 has been edited for English language appropriateness.

Name: S. BAGRUDEEN, MA., BSc., MEd.,

Designation: Retd. Teacher

Institution: Govt. Hr. Sec. School. Edayamelur.

signature

S. BAGRUDEEN, MA., BSc., MEd.,
P/T. Professor of Engli...
(I-Year BSc Nursing)
Madurai Medical College
Madurai - 625020.

APPENDIX-VIII

TAMIL EDITING CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation "**A study to evaluate the effectiveness of cold pack application on acute episodic pain among patients with migraine in outpatient department at Government Rajaji hospital Madurai"** done by Mrs.K.Nagajothi,II year M.Sc,Nursing student, college of Nursing, Madurai Medical college,Madurai-20 has been edited for Tamil Language appropriateness.

Name: தி.பாரிமாள

Designation: உதவிப்பேராசிரியர்

Institution: மன்னர் திருமலை நாயக்கர் கல்லூரி

signature

முனைவர். தி.பாரிமாள M.A., M.Phil., Ph.D.,
உதவிப் பேராசிரியர்
தமிழ்த்துறை (சுயநிதி)
மன்னர் திருமலை நாயக்கர் கல்லூரி (தன்னாட்சி)
பசுமலை, மதுரை-625 004

APPENDIX - IX

COLD PACK APPLICATION PROCEDURE

Cold pack application is a procedure to apply an ice or cold gel pack to a specific body part to relieve pain, muscle strain, swelling, and inflammation.

PURPOSES

- To relieve pain of muscle stria
- To relieve congestion/oedema
- To relieve urinary tract infection
- To reduce infiamation
- To reduce the temperature

CONTRAINDICATIONS

- Hypothermia
- Musle spasm
- Peripheral neuropathy
- Cold intolerance

ARTICLES NEEDED FOR THE COLD PACK APPLICATION

- Cold pack
- Small towel-2
- Ice pack-4
- Vaccine carrier or thermocool container

COLD PACK CONTAINS

Mix 3 cups (710 mL) water and 1 cup (235 mL) rubbing alcohol in a freezer bag. Seal the bag and place it in the freezer until slush forms. Refreeze the bag when the slush melts. cold packs that can be reusable Store them in refrigerator to freeze.

Cold pack contains water mix with ammonium nitrate,or calcium ammomium nitrate and urea.

Procedure for col pack application

S.NO	NURSING ACTION	RATIONALE
1.	Asses the level of pain on migraine patients scored by numerical rating scle	To know the level of pain
2.	Identify the patients, check physician order	To ensure right procedure to the right person
3	Provide explanation and get consent from the subjects	Promotes patients cooperation and participation
4	Cold pack keep it in refrigerator thirty minutes for freeze	Slush formation, effect of the intervention
5	After that wraped in small towel to apply fore head for 20 minutes intermittently	Application beyond this time causes secondary effects
6	During application check tolerance cyanosis and mottling	Identifies complications an early stage
7	After completion of the intervention pack cover is removed and re freeze the cold pack	Effect of the procedure is monitored
8	Half an hour interval second application provided pain measured by numerical rating scale.	Ensure maximum benefit of the intervention,to reduce the frequency of attack
9	Finally replace the articles and record the procedure	To have proper documentation.

APPENDIX –X